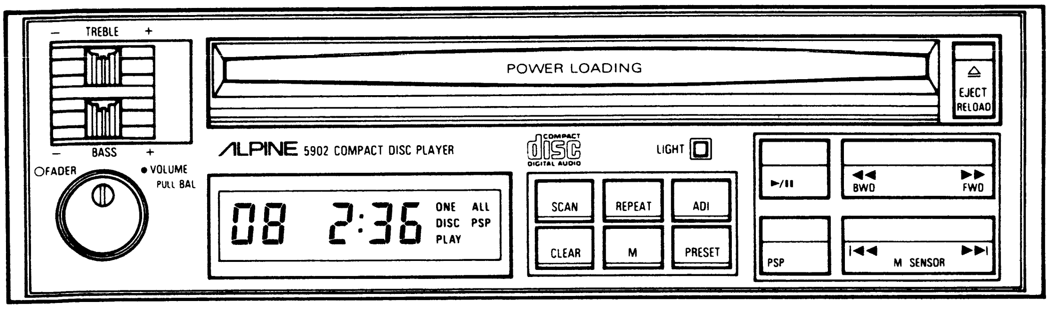
ALPINE SERVICE MANUAL

ALPI -00544

Compact Disc Player


– TREBLE +
– BASS +
FADER
VOLUME
PULL BAL
POWER LOADING
EJECT
RELOAD
ALPINE 5902 COMPACT DISC PLAYER
COMPACT disc DIGITAL AUDIO
LIGHT
08 2:36
ONE
ALL
DISC
PSP
PLAY
SCAN
REPEAT
ADI
CLEAR
M
PRESET
►/II
◄◄ BWD
►► FWD
PSP
I◄◄
M SENSOR
►►I

544

5902

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Specifications

<CD SECTION>

System	Optical (Compact Disc system)
Quantizing Bit Number	16 bit Liner system
Channels	2 Channels
Distortion (1KHz)	0.008%
Frequency Response (Ref. 1KHz)	±1dB (20Hz~10kHz) ±2dB (20kHz)
Signal to Noise Ratio	85dB
Separation	60dB (1Hz) 50dB (10kHz)
Noise Level	0.1mV
Currents (at PLAY)	1.2A
Tone Control Effect (1kHz)	Bass : ±10dB±3dB (100Hz) Treble : ±10dB±3dB (10Hz)

<GENERAL>

Power Supply	14V DC (10.5V to 16V allowable)
Output Voltage/Impedance	500mV/10K ohm
Semiconductors (North American model only)	26 IC's, 93 Transistors, 1 FET's, 32 Diodes, 13 Zener Diodes
Semiconductors (European model only)	27 IC's, 96 Transistors, 1 FET's, 32 Diodes, 13 Zener Diodes
Dimensions	Nose : 171 (W) ×48 (H) ×15 (D) mm Chassis : 178 (W) ×50 (H) ×150 (D) mm
Weight	1.7Kg

<COMPACT DISC>

Track Pitch	1.6 μ m
Modulation Frequency	44.1kHz
Transfer Rate	4.3218M bit/sec
Dimensions	120×1.2mm

NOTE : Due to continuing product improvement, specifications and design are subject tochange without notice.

Precautions

●PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instruction below when servicing.

WARNING !!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30 cm FROM THE SURFACE OF THE OBJEC TIVE LENS ON THE OPTICAL PICK-UP BLOCK.

CAUTION

Use of contorls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

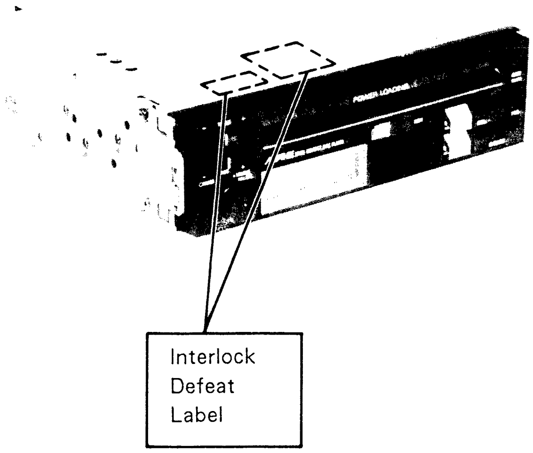
●LASER WARNING LABEL

The labels shown below are affixed.

Interlock Defeat Label

DANGER
INVISIBLE LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

—Top Left-hand Side View—
(European model only)



1. **Laser Diode Properties**
   - ●Material : GaAlAs
   - ●Wavelength : 780 nm
   - ●Emission Duration : continuous
   - ●Laser Output : max.0.35mW*

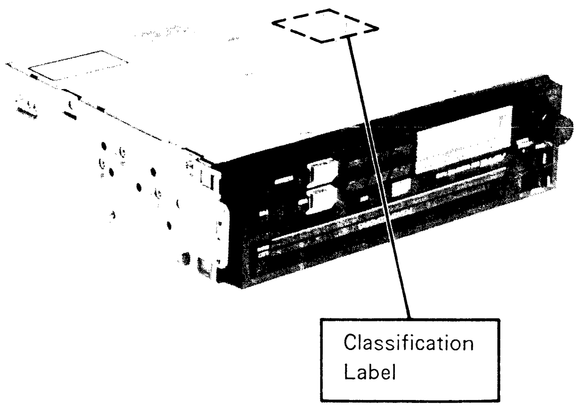
*This output is the value measured at a distance of about 1.6mm from the objective lens surface on the Optical Pick-up Block.

- ●Classification : Class 1. (European model only)
- ●Classification : Class IIIb (North American model only)

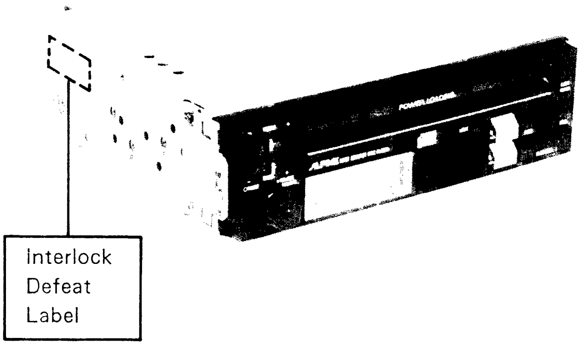
Classification Label

CLASS 1
LASER PRODUCT

—Bottom Right-hand Side View—
(European model only)



—Top Left-hand Side View—
(North American model only)



Parts Locations and Disassembly Instructions

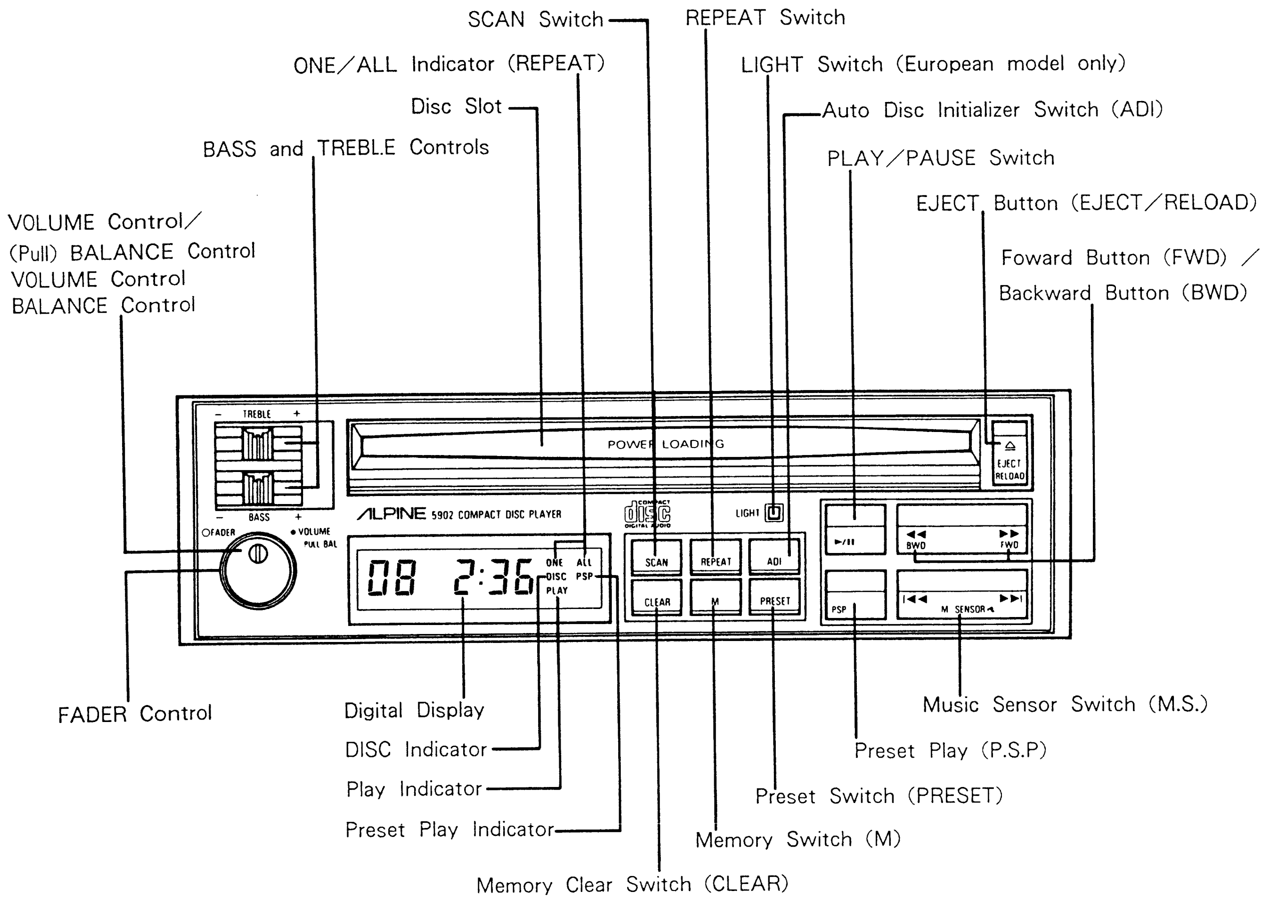

SCAN Switch
REPEAT Switch
ONE／ALL Indicator (REPEAT)
LIGHT Switch (European model only)
Disc Slot
Auto Disc Initializer Switch (ADI)
BASS and TREBLE Controls
PLAY／PAUSE Switch
EJECT Button (EJECT／RELOAD)
VOLUME Control／
(Pull) BALANCE Control
VOLUME Control
BALANCE Control
Foward Button (FWD) ／
Backward Button (BWD)
TREBLE
BASS
FADER
VOLUME
PULL BAL
POWER LOADING
EJECT
RELOAD
ALPINE 5902 COMPACT DISC PLAYER
COMPACT DISC DIGITAL AUDIO
LIGHT
08 2:36
ONE ALL
DISC PSP
PLAY
SCAN
REPEAT
ADI
CLEAR
M
PRESET
PSP
BWD
FWD
M SENSOR
FADER Control
Digital Display
DISC Indicator
Play Indicator
Preset Play Indicator
Music Sensor Switch (M.S.)
Preset Play (P.S.P)
Preset Switch (PRESET)
Memory Switch (M)
Memory Clear Switch (CLEAR)

Figure 1

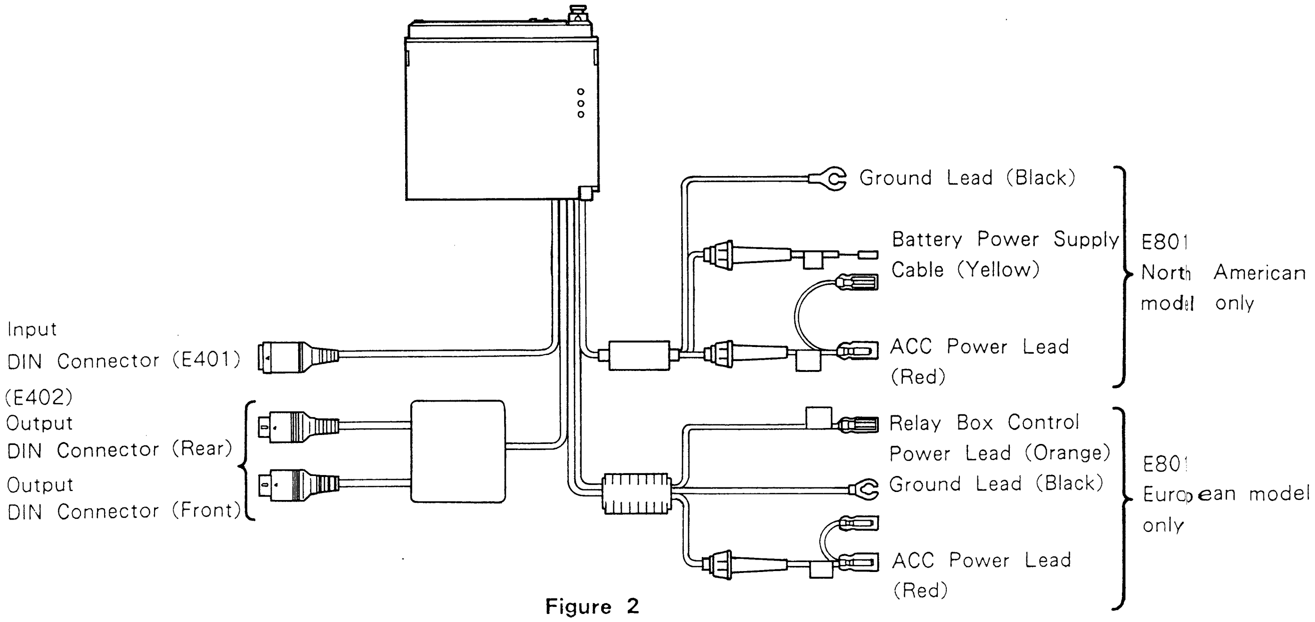

Ground Lead (Black)
Battery Power Supply
Cable (Yellow)
E801
North American
model only
ACC Power Lead
(Red)
Input
DIN Connector (E401)
(E402)
Output
DIN Connector (Rear)
Output
DIN Connector (Front)
Relay Box Control
Power Lead (Orange)
Ground Lead (Black)
E801
European model
only
ACC Power Lead
(Red)

Figure 2

<Cabinet Section>

1. **Removal of Top Cover**
   (1) Remove eight screws marked "○" as shown in Figures 3 and 4.
   (2) Pull out the top cover in the arrow direction as shown in Figure 3.
   (3) Top Cover with Bracket Stopper Ass'y can be removed completely.

2. **Removal of Bottom Cover**
   (1) Remove two screws marked "△" as shown in Figure 4.

3. **Removal of Nosepiece**
   (1) After removal of the top cover, remove two control knobs (Volume, Fader) and two slide knobs (Treble, Bass) as shown in Figure 5.
   (2) Remove two screws marked "□" as shown in Figures 5 and 6.

4. **Removal of CD Mechanism**
   (1) After removal of the nosepiece, remove four screws marked "×" as shown in Figure 7 and 9.
   (2) Disconnect all parallel wires Flex. P.C. Board from the CD Mechanism.

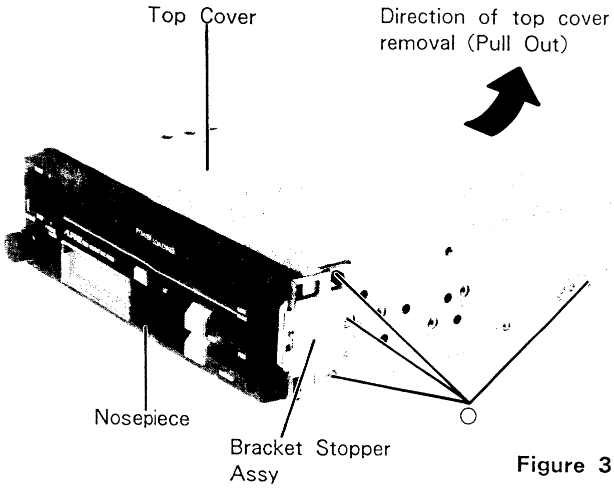

Top Cover
Direction of top cover removal (Pull Out)
Nosepiece
Bracket Stopper Assy
○

Figure 3

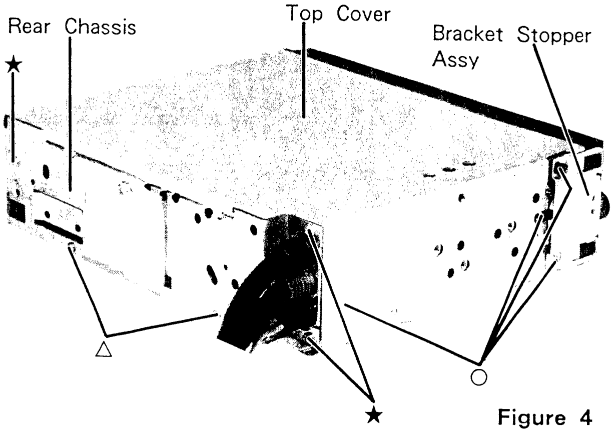

Rear Chassis
★
Top Cover
Bracket Stopper Assy
△
★
○

Figure 4

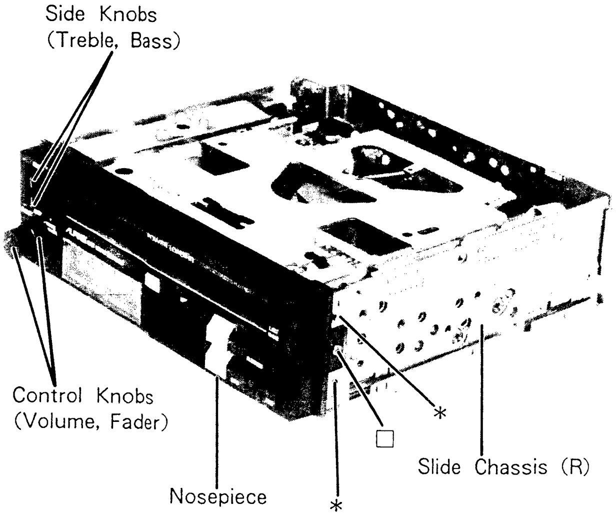

Side Knobs (Treble, Bass)
Control Knobs (Volume, Fader)
Nosepiece
*
□
*
Slide Chassis (R)

Figure 5

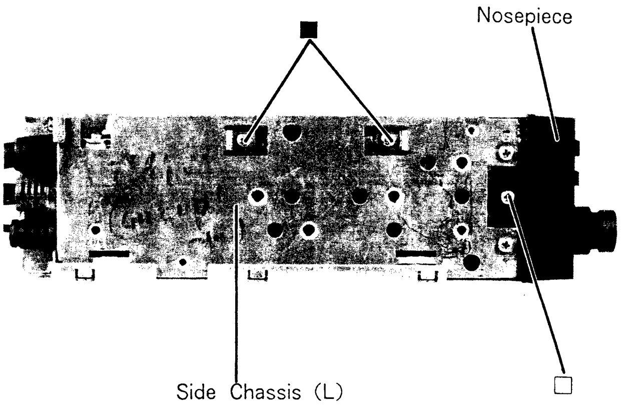

■
Nosepiece
Side Chassis (L)
□

Figure 6

5. Removal of Front P.C. Board

(1) After removal of the bottom cover and nose - piece, disconnect parallel wire (A) and Flex. P. C. Boards from Main P.C. Board as shown in Figure 9 by removing the solders (a).

(2) Remove two screws marked "●" as shown in Figure 8.

6. Removal of Side Chassis (R)

(1) After removal of CD Mechanism and bottom cover, disconnect the parallel wire (B) as shown in Figure 9 by removing the solder (b).

(2) Disconnect the solders (c) as shown in Figure 9.

(3) Remove five screws marked "∗" as shown in Figures 4, 5 and 9.

(4) Disconnect all parallel wires from Main P.C. Board.

(5) Side Chassis (R) with Control P.C. Board can be removed completely.

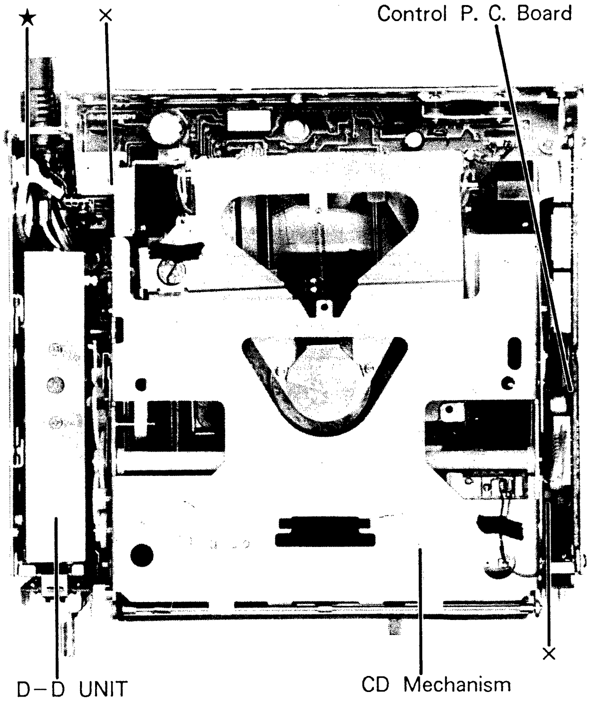

★
×
Control P. C. Board
×
D−D UNIT
CD Mechanism

Figure 7

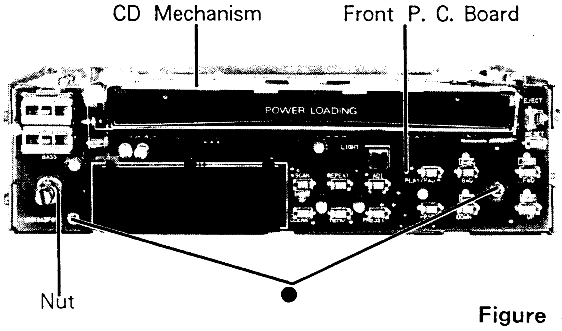

CD Mechanism
Front P. C. Board
POWER LOADING
EJECT
LIGHT
BASS
SCAN
REPEAT
Nut
●

Figure 8

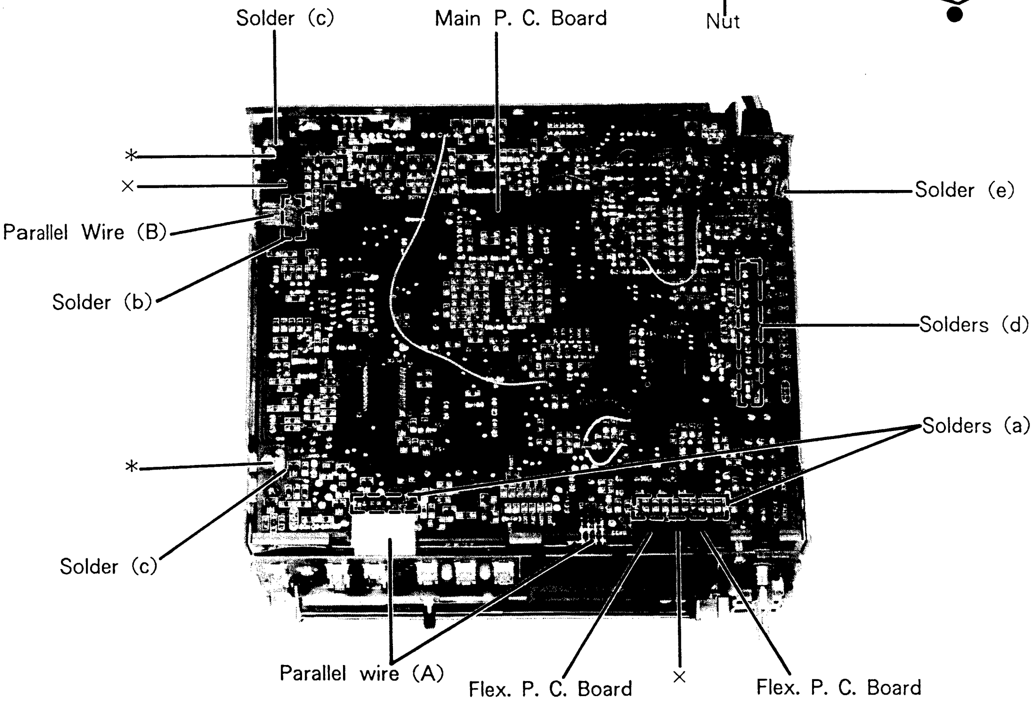

Solder (c)
Main P. C. Board
∗
×
Parallel Wire (B)
Solder (b)
Solder (e)
Solders (d)
Solders (a)
∗
Solder (c)
Parallel wire (A)
Flex. P. C. Board
×
Flex. P. C. Board

Figure 9

7. Removal of Control P.C. Board

(1) After removal of the side chassis (R), remove two screws marked "▲" as shown in Figure 10.

8. Removal of D-D Unit

(1) After removal of CD Mechanism and bottom cover, remove the solders (d) as shown in Figure 9.

(2) Remove two screws marked "■" as shown in Figure 6.

9. Removal of Main P.C. Board

(1) After removal of Front P.C. Board and the rear chassis, remove a nut as shown in Figure 11.

(2) Remove three screws marked "★" as shown in Figure 4 and 7.

(3) Disconnect all wires from Main P.C. Board and Radio P.C. Board.

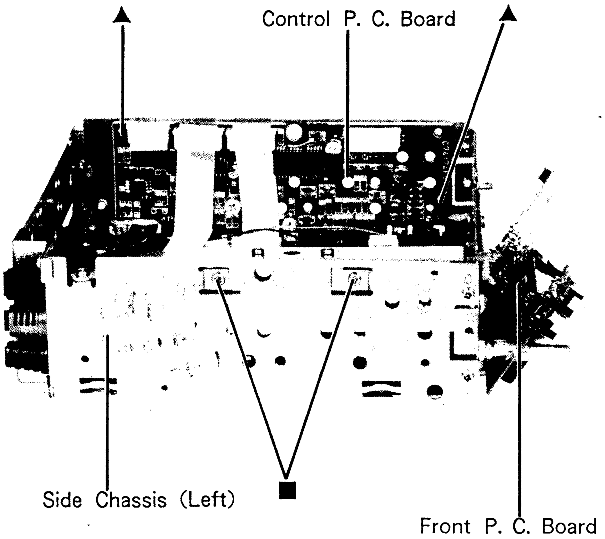

▲
Control P. C. Board
▲
Side Chassis (Left)
■
Front P. C. Board

Figure 10

<CD Mechanism Section>

1. Removal of RF AMP P. C. Board

(1) Remove two screws marked "○" as shown in Figure 11.

(2) Disconnect two FPC P. C. Boards from the Head Unit.

(3) Disconnect one wire from Load P. C. Board

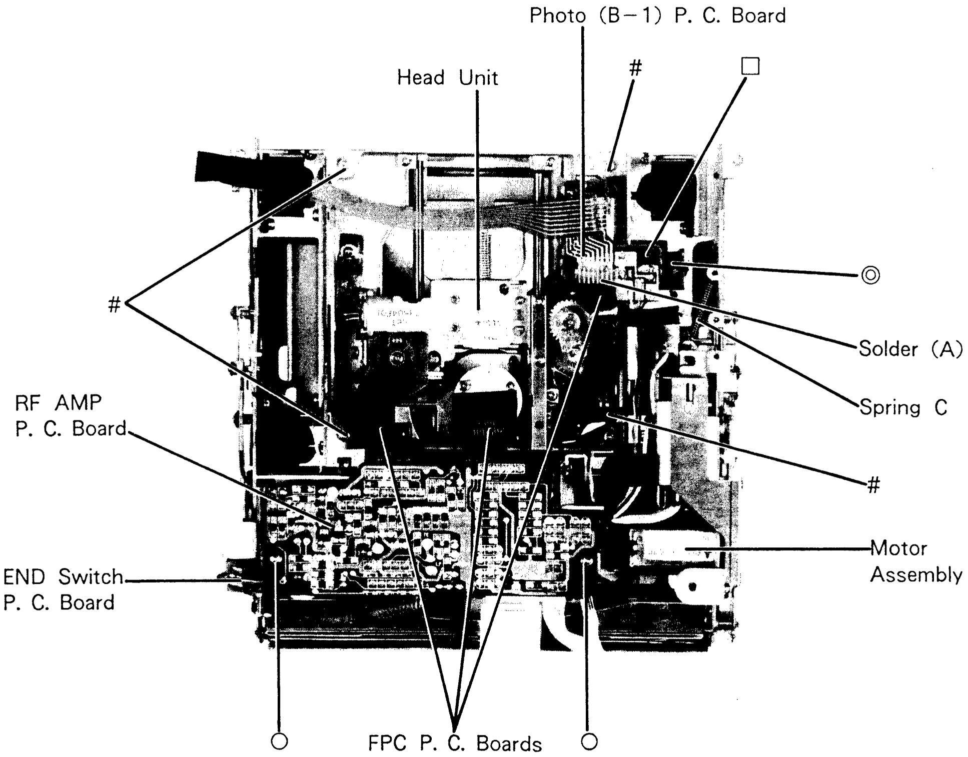


Photo (B−1) P. C. Board
Head Unit
#
□
#
◎
Solder (A)
Spring C
RF AMP P. C. Board
#
Motor Assembly
END Switch P. C. Board
○
FPC P. C. Boards
○

Figure 11

2. Removal of Load P. C. Board

(1) After removal of RF AMP P. C. Board, disconnect all wires from Load P. C. Board.

(2) Remove two screws marked "△" as shown in Figure 12.

3. Removal of Photo (B−1) P. C. Board

(1) After removal of RF AMP P. C. Board, disconnect one FPC P. C. Board from the Head Unit as shown in Figure 11 by removing the solder (A).

(2) Remove one screw marked "□" as shown in Figure 11.

(3) Disconnect all wires from Photo (B−1) P. C. Board.

4. Removal of Rivet Arm Clamp Assembly

(1) After removal of RF AMP P. C. Board, remove two springs (A) and two rings (A) as shown in Figures 13 and 14.

(2) Pull out the shaft from Bracket Head Assembly (L) ／ (R).

(3) Disconnect two wires from Photo (B−2) P. C. Board.

(4) Rivet Arm Clamp Assembly with Photo (B−2) P. C. Board can be removed completely.

5. Removal of Photo (B−2) P. C. Board

(1) After removal of Rivet Arm Clamp Assembly, remove one screw marked "◎" as shown in Figure 11.

6. Removal of End Switch P. C. Board

(1) After removal of RF AMP P. C. Board, remove one screw marked "×" as shown in Figure 15.

(2) Disconnect two wires from the P. C. Board.

7. Removal of Head Unit

(1) After removal of Photo (B−1) P. C. Board , remove four screws marked "#" as shown in Figure 11.

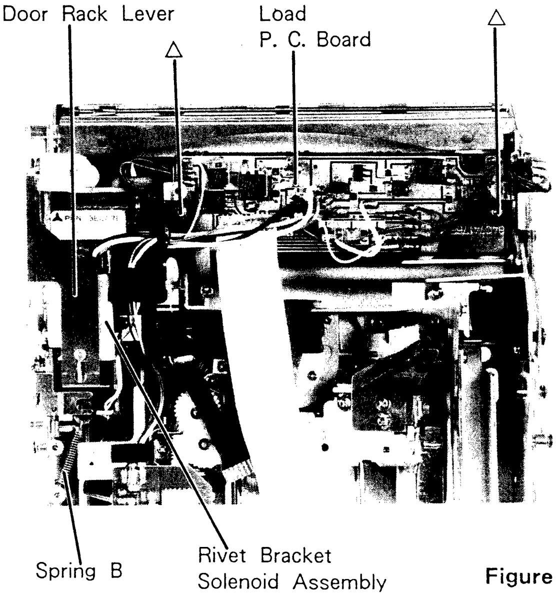

Door Rack Lever
△
Load
P. C. Board
△
Spring B
Rivet Bracket
Solenoid Assembly

Figure 12

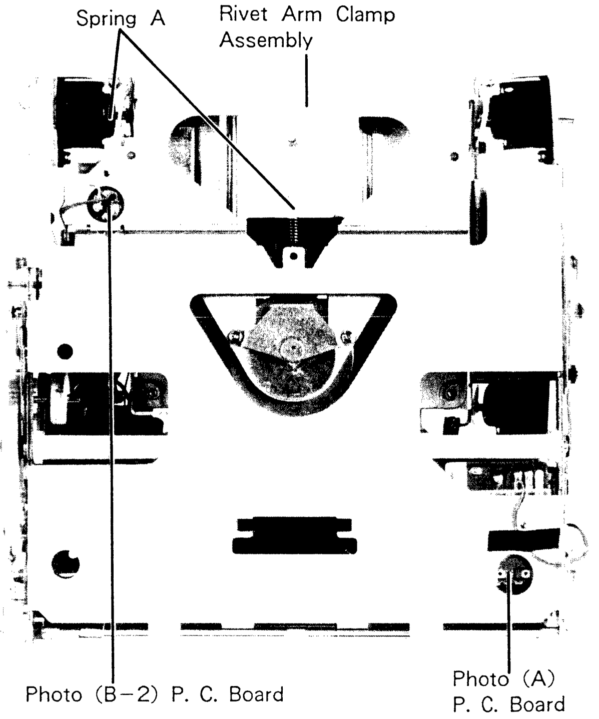

Spring A
Rivet Arm Clamp
Assembly
Photo (B−2) P. C. Board
Photo (A)
P. C. Board

Figure 13

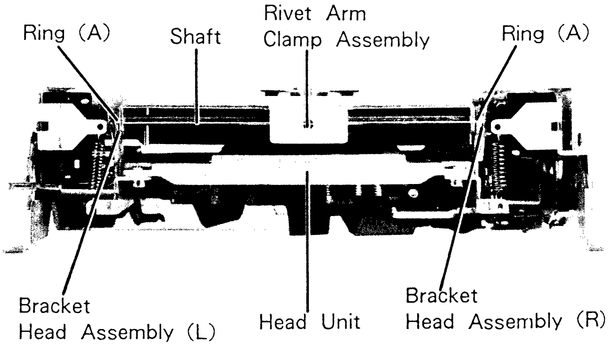

Ring (A)
Shaft
Rivet Arm
Clamp Assembly
Ring (A)
Bracket
Head Assembly (L)
Head Unit
Bracket
Head Assembly (R)

Figure 14

8. Removal of Rivet Bracket Solenoid Assembly

(1) After removal of Load P. C. Board and Head Unit, remove three gears as shown in Figure 16, by removing two washers A and one ring B.

(2) Remove one Rivet Gear Down Assembly as shown in Figures 12 and 16, by removing two springs B and one washer B.

(3) Remove Door Rack Lever as shown in Figures 11 and 16 by removing one spring C and one washer C.

(4) Remove two screws marked "☆" as shown in Figure 17.

(5) Rivet Bracket Solenoid Assembly with Solenoid Assembly and Door Switch P. C. Board can be removed completely.

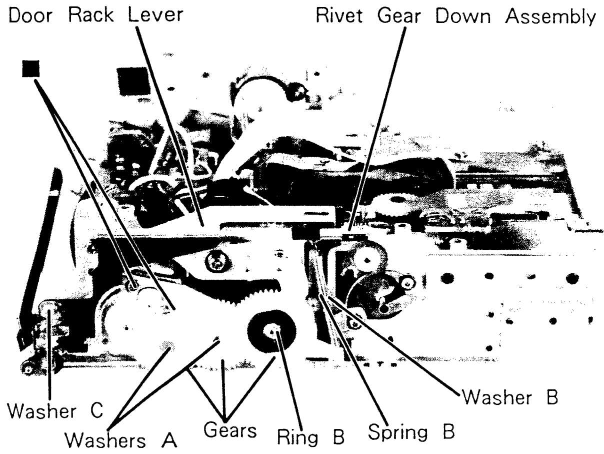

Door Rack Lever
Rivet Gear Down Assembly
■
Washer C
Washers A
Gears
Ring B
Spring B
Washer B

Figure 16

9. Removal of Solenoid Assembly

(1) After removal of Rivet Bracket Solenoid Assembly, remove two screws marked "●" as shown in Figure 18.

10. Removal of Door Switch P. C. Board

(1) After removal of Rivet Bracket Solenoid Assembly, remove a screw marked "▲" as shown in Figure 19.

11. Removal of Motor Assembly

(1) After removal of Rivet Bracket Solenoid Assembly, remove two screws marked "■" as shown in Figure 16.

12. Removal of Photo (A) P. C. Board

(1) After removal of Motor P. C. Board, remove Rivet Arm Roller Assembly as shown in Figure 15 by removing a screw marked "※".

(2) Remove Dumper RF Bracket as shown in Figure 15 by removing two screws marked "◇".

(3) Remove Rivet Arm Guide Assembly as shown in Figures 15 and 17 by removing one washer D and two screws marked "◆" as shown in Figure 17.

(4) Remove Disc Guide Cover by removing two screws marked "★" as shown in Fignre 19.

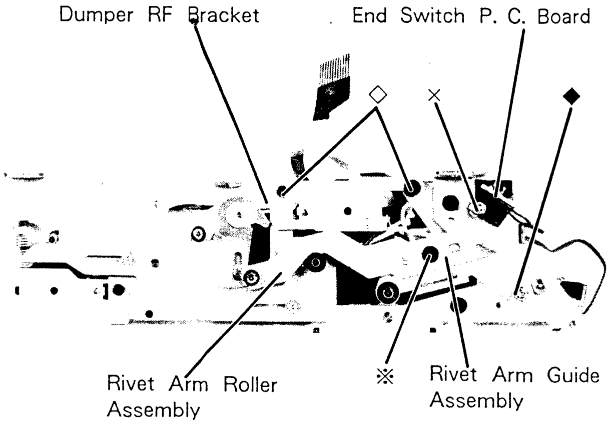

Dumper RF Bracket
End Switch P. C. Board
◇
×
◆
Rivet Arm Roller Assembly
※
Rivet Arm Guide Assembly

Figure 15

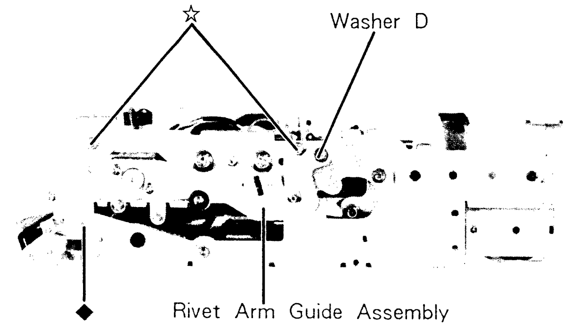

☆
Washer D
◆
Rivet Arm Guide Assembly

Figure 17

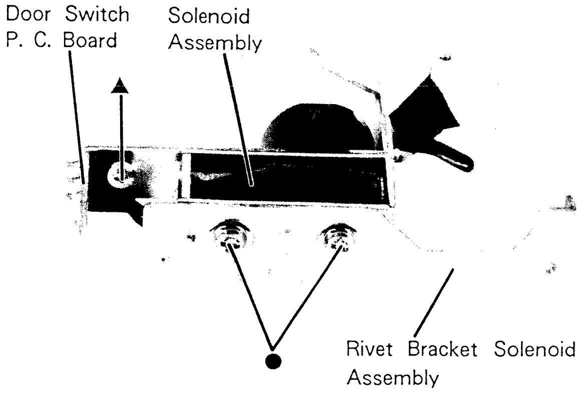

Door Switch P. C. Board
Solenoid Assembly
▲
●
Rivet Bracket Solenoid Assembly

Figure 18

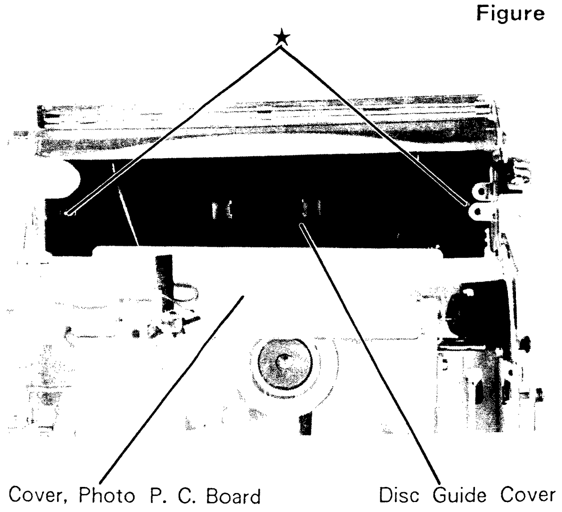

★
Cover, Photo P. C. Board
Disc Guide Cover

Figure 19

Adjustment Procedures

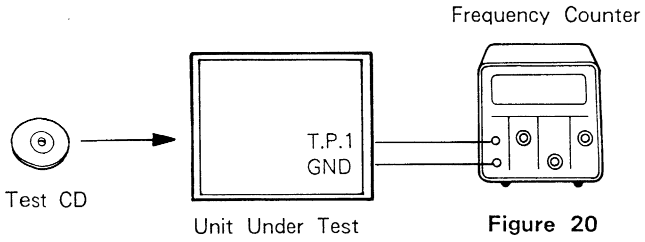

Frequency Counter
Test CD
T.P.1
GND
Unit Under Test

Figure 20

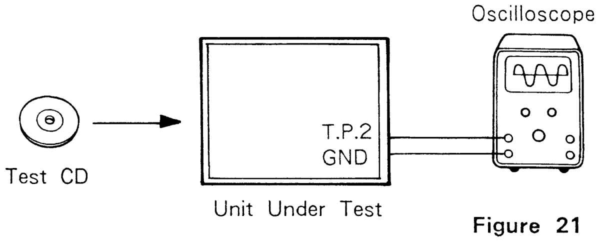

Oscilloscope
Test CD
T.P.2
GND
Unit Under Test

Figure 21

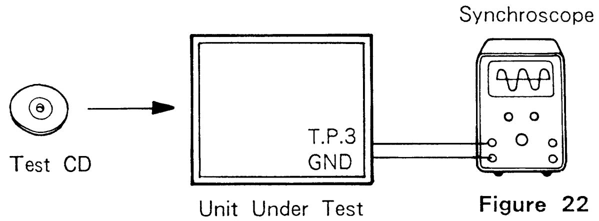

Synchroscope
Test CD
T.P.3
GND
Unit Under Test

Figure 22

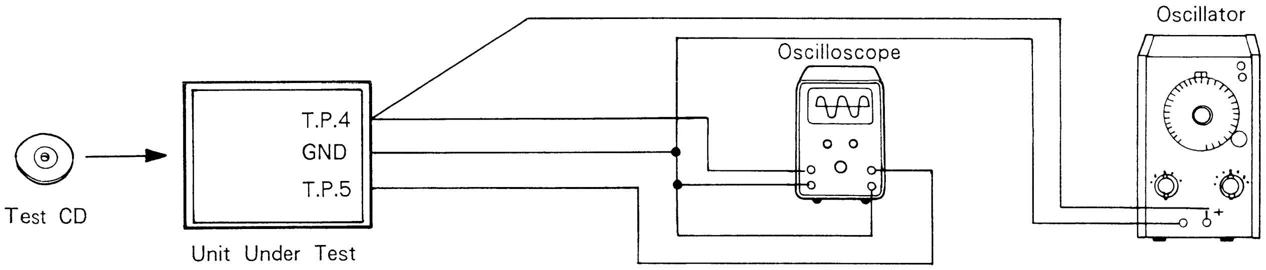

Oscillator
Oscilloscope
Test CD
T.P.4
GND
T.P.5
Unit Under Test

Figure 23

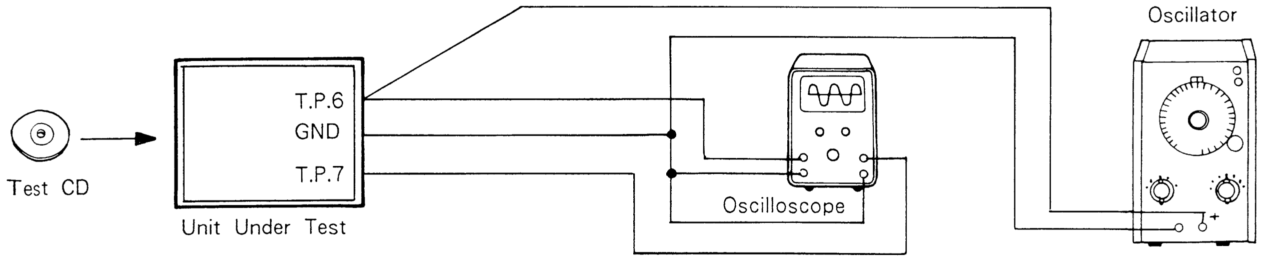
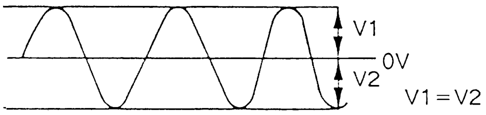

Oscillator
Test CD
T.P.6
GND
T.P.7
Oscilloscope
Unit Under Test

Figure 24

(2) Control Settings

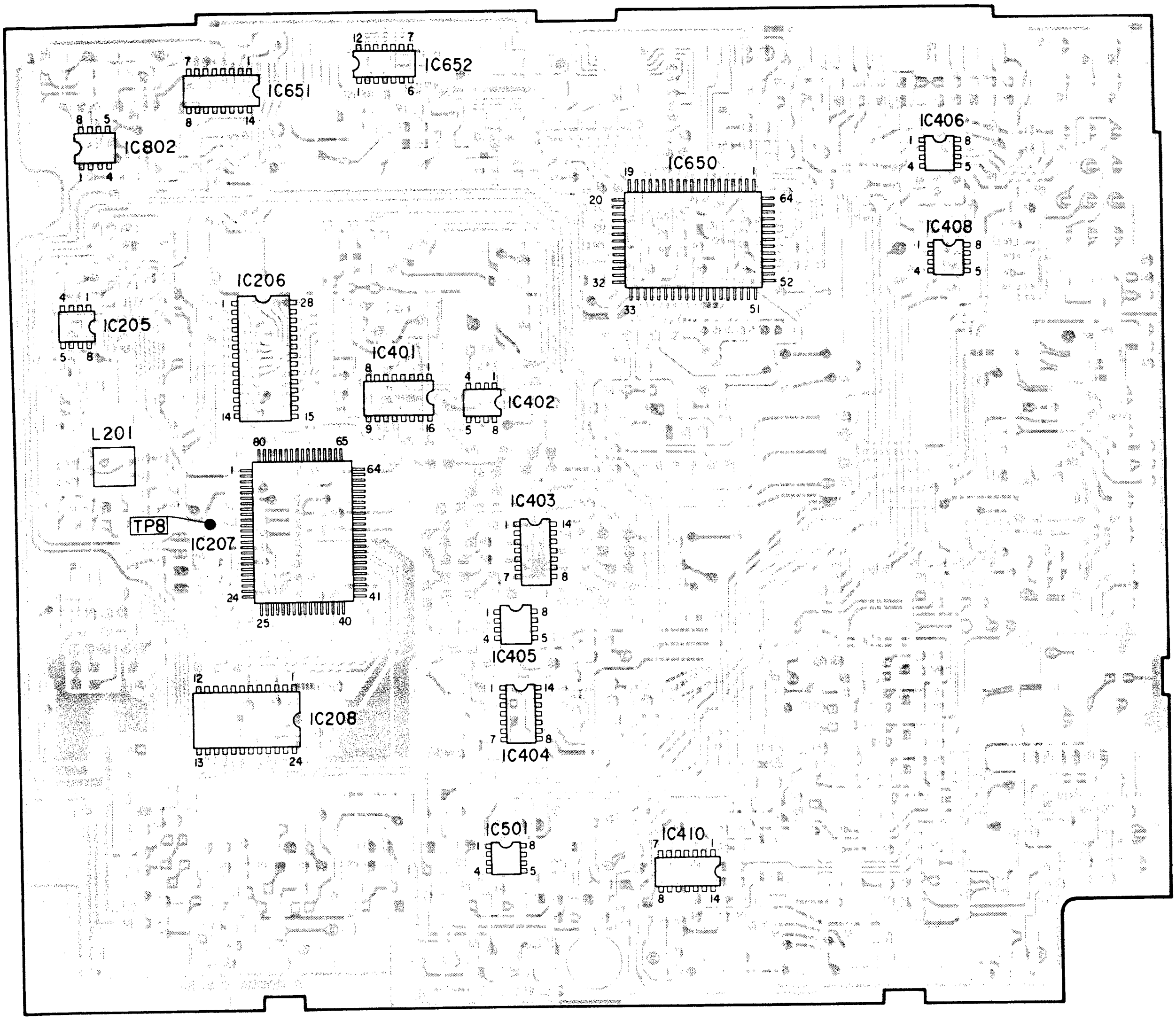
Power Switch	ON
Play/Pause Switch	ON
Volume Control	Mini. Position
Treble/Bass Control	Mech. Center
Balance Control	Center Position
Fader Control	Center Position
Other Switches	OFF

(3) Adjustment Procedures

Step	Description	Connection	Oscillator	Test Point	Adjustment
1	VCO Adjustment	Figure 20	—	T.P.1	Adjust L201 so that the frequency is 4.2MHz~4.3MHz.
2	Tracking Offset Adjustment	Figure 21	—	T.P.2	(VR202 → Minimum) Adjust VR301 so that the oscilloscope waveform is symmetrial above and below, relative to 0V. 
3	Focus Offset Adjustment	Figure 22	—	T.P.5	Adjust VR302 so that the amplitude of oscilloscope waveform is maximum.
4	Focus Gain Adjustment	Figure 23	2kHz 1V (P–P)	T.P.4 T.P.5	Adjust VR201 so that the voltage of T.P.4 and T.P.5 is 1V (P–P).
5	Tracking Gain Adjustment	Figure 24	2.4kHz 400mV (P–P)	T.P.6 T.P.7	Adjust VR202 so that the voltage of T.P.6 and T.P.7 is 400mV (P–P).

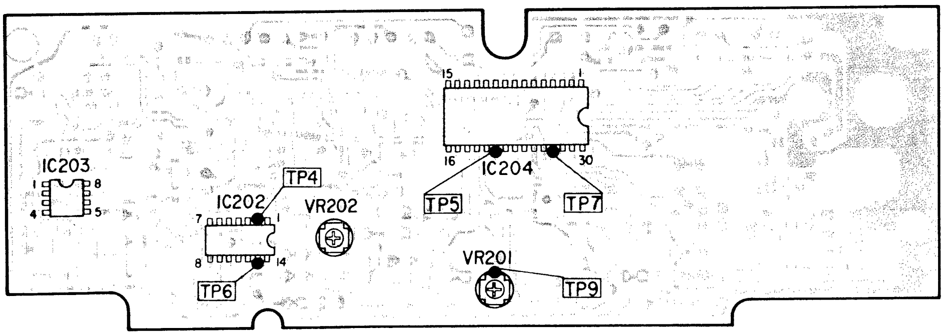
Adjustment Locations

Main P. C. Board (North American model only)

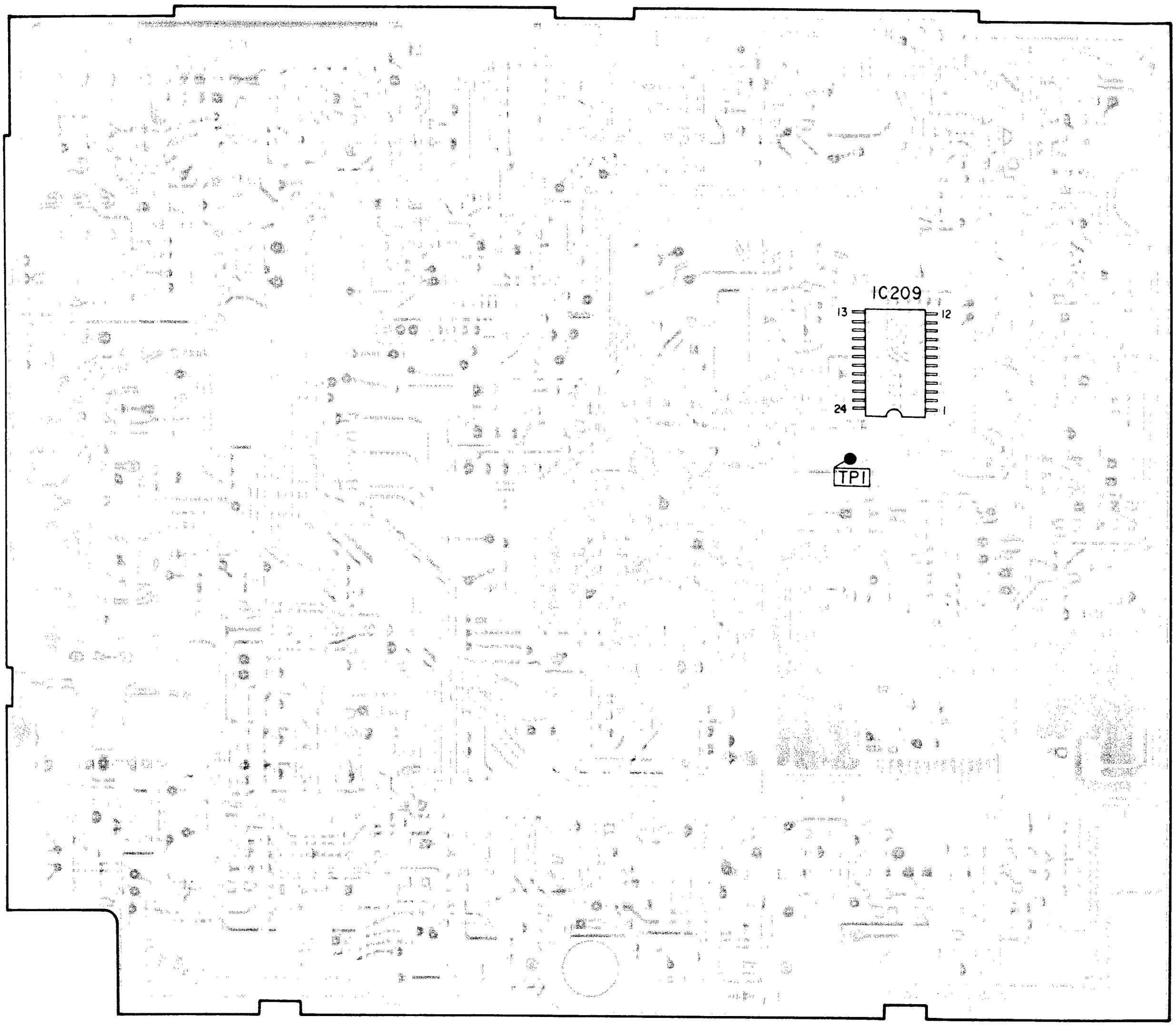

IC651
IC652
IC802
IC406
IC650
IC408
IC206
IC205
IC401
IC402
L201
TP8
IC207
IC403
IC405
IC208
IC404
IC501
IC410

Top View

Control P. C. Board (North American model only)

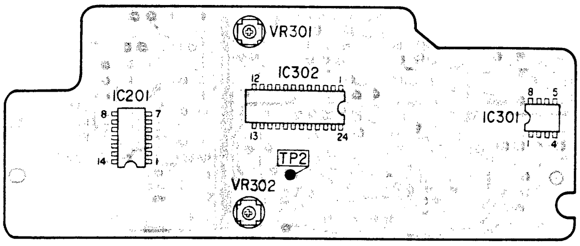

IC204
IC203
TP4
IC202
VR202
TP5
TP7
VR201
TP6
TP9

Main P. C. Board (North American model only)

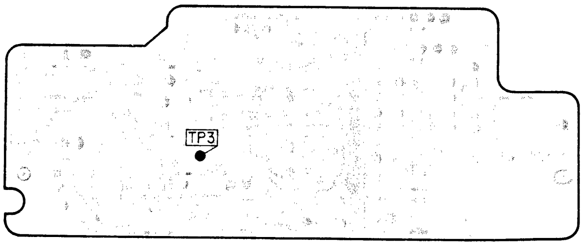

IC209
13
12
24
1
TP1

Bottom View

RF Amp P. C. Board (Common)

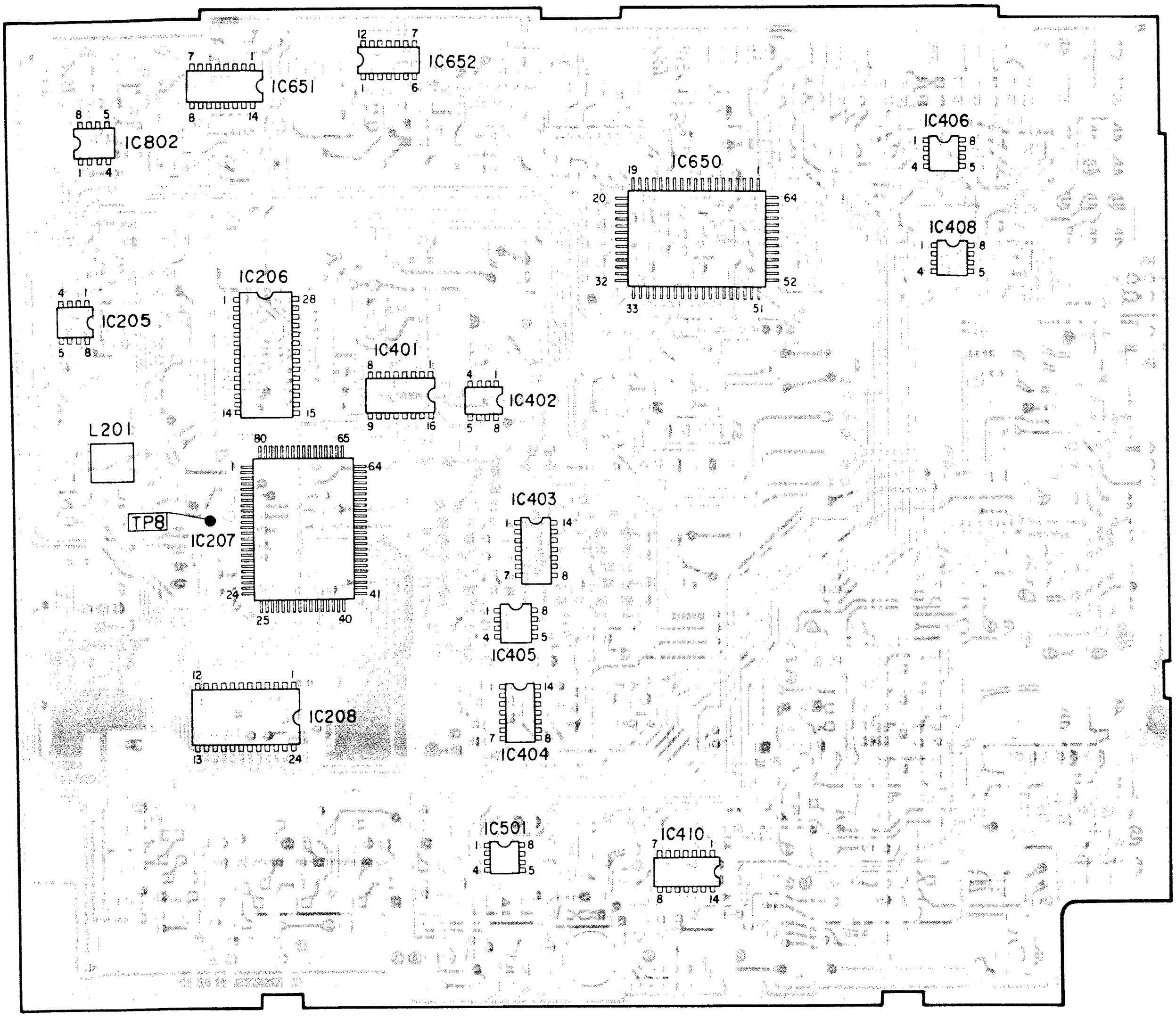

VR301
12
IC302
1
IC201
8
7
14
1
13
24
IC301
8
5
1
4
TP2
VR302

Bottom View



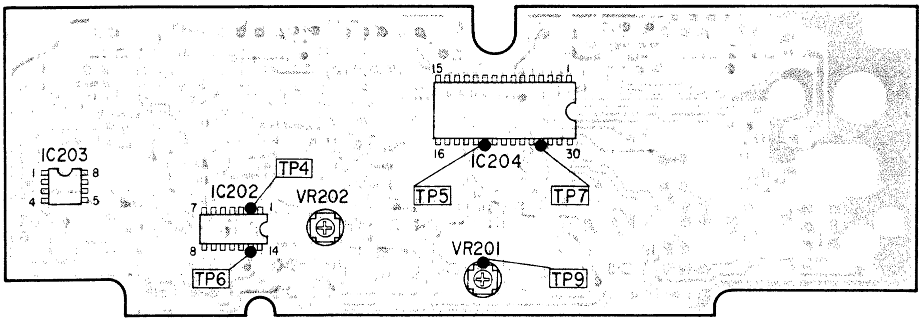
Top View

Main P. C. Board (European model only)

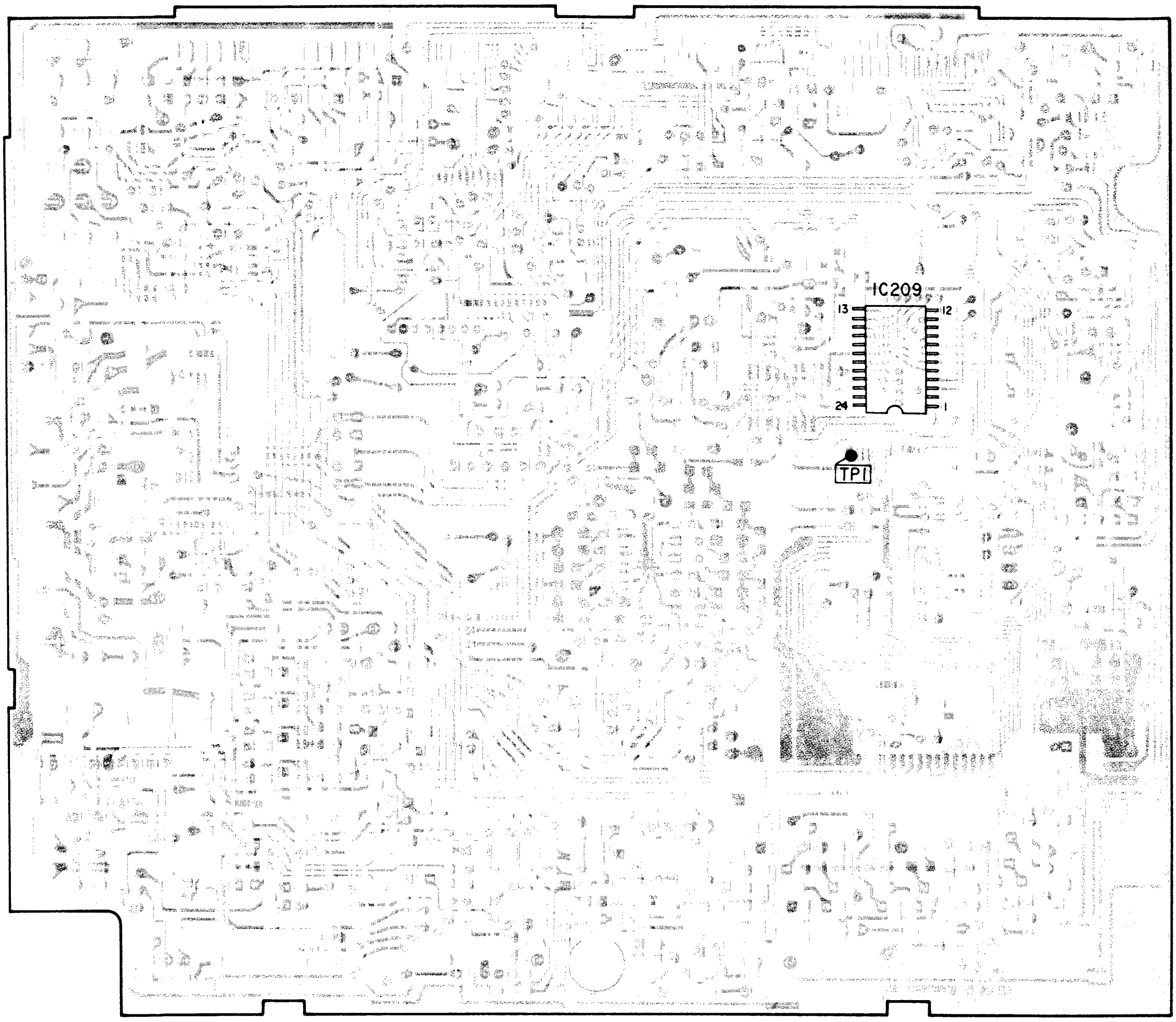

IC651
IC652
IC802
IC406
IC650
IC408
IC206
IC205
IC401
IC402
L201
IC403
TP8
IC207
IC405
IC208
IC404
IC501
IC410

Top View

Control P. C. Board (European model only)

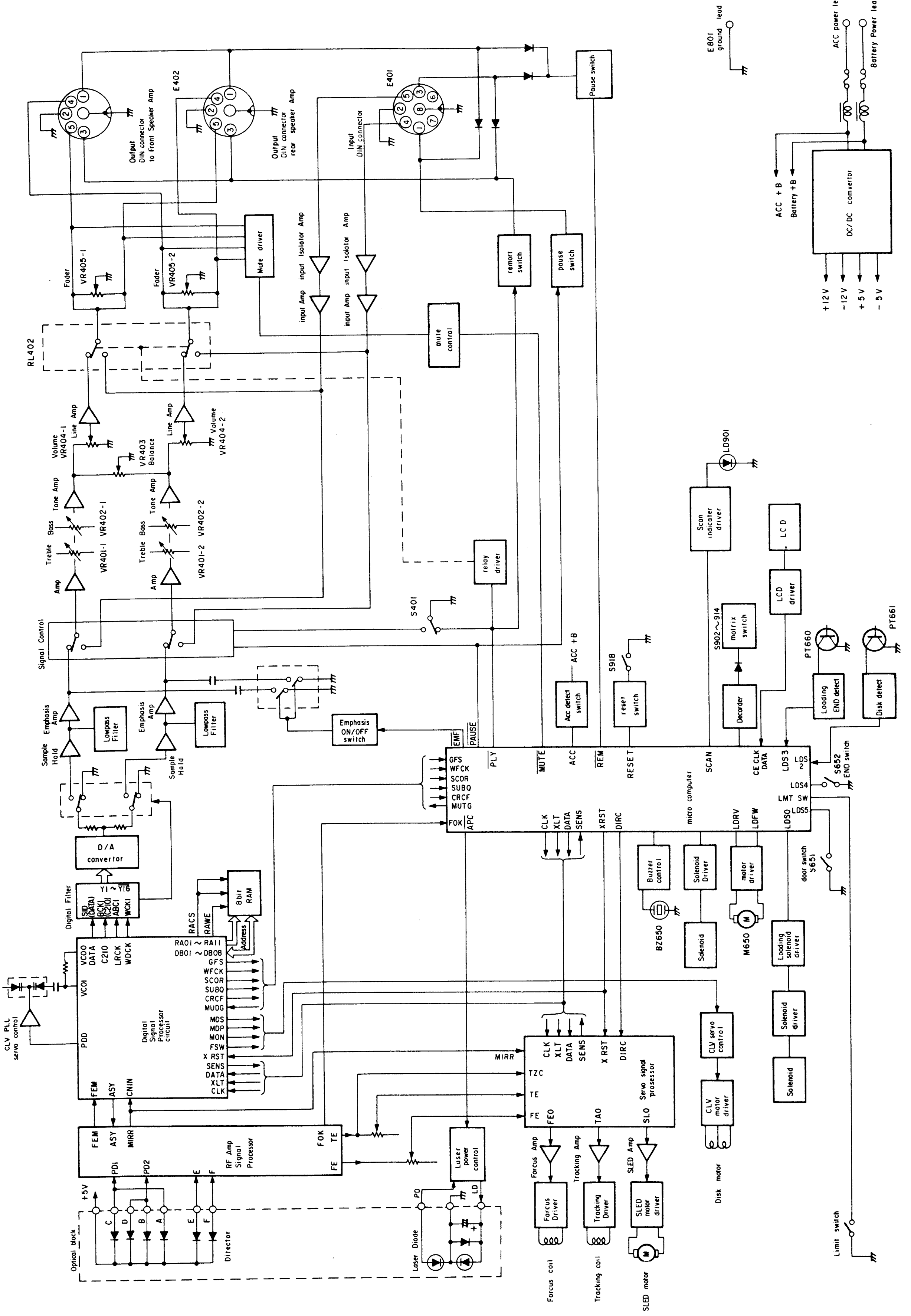

IC203
TP4
IC202
VR202
IC204
TP5
TP7
VR201
TP6
TP9

Main P. C. Board (European model only)

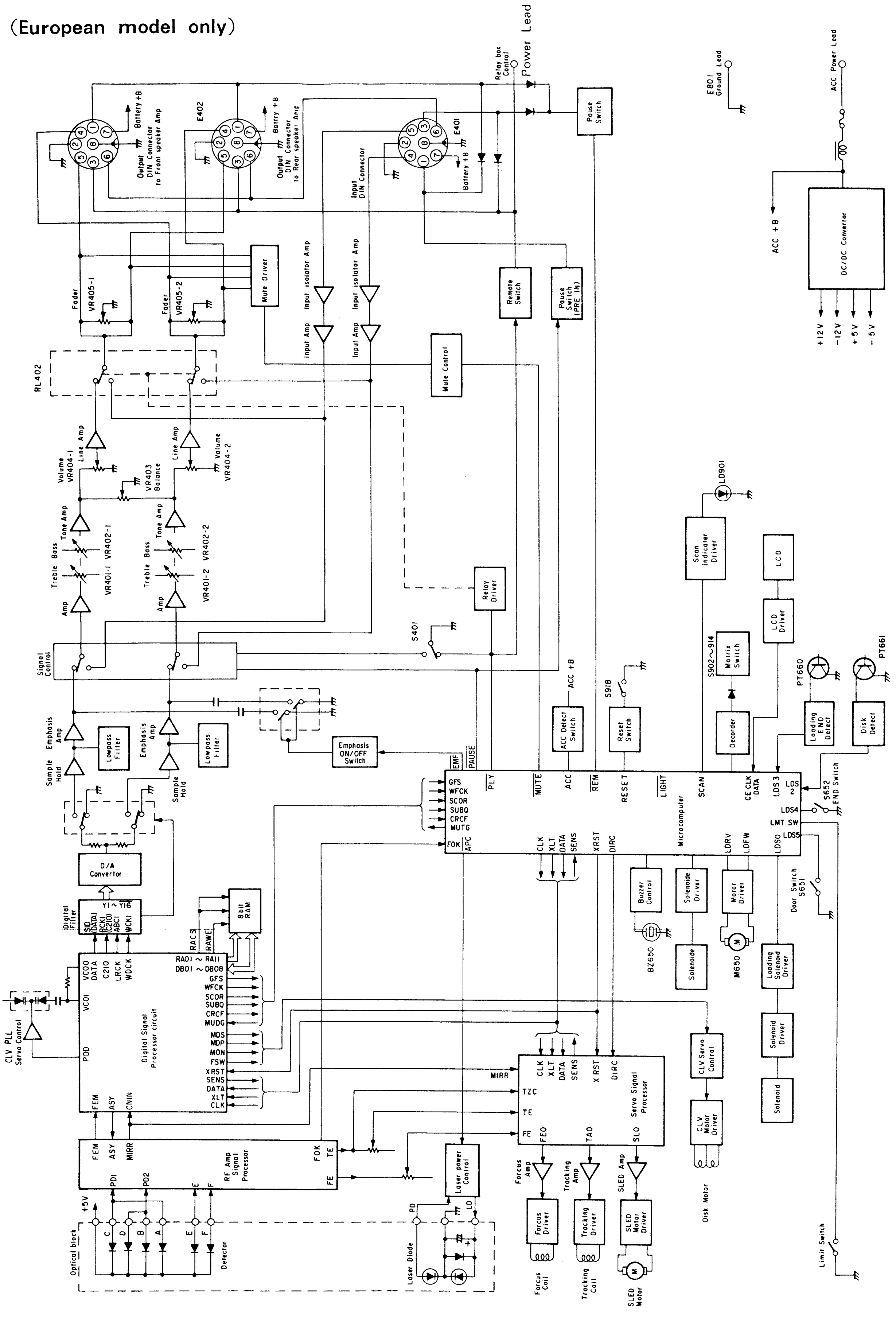

IC209
13
12
24
1
TP1

Bottom View

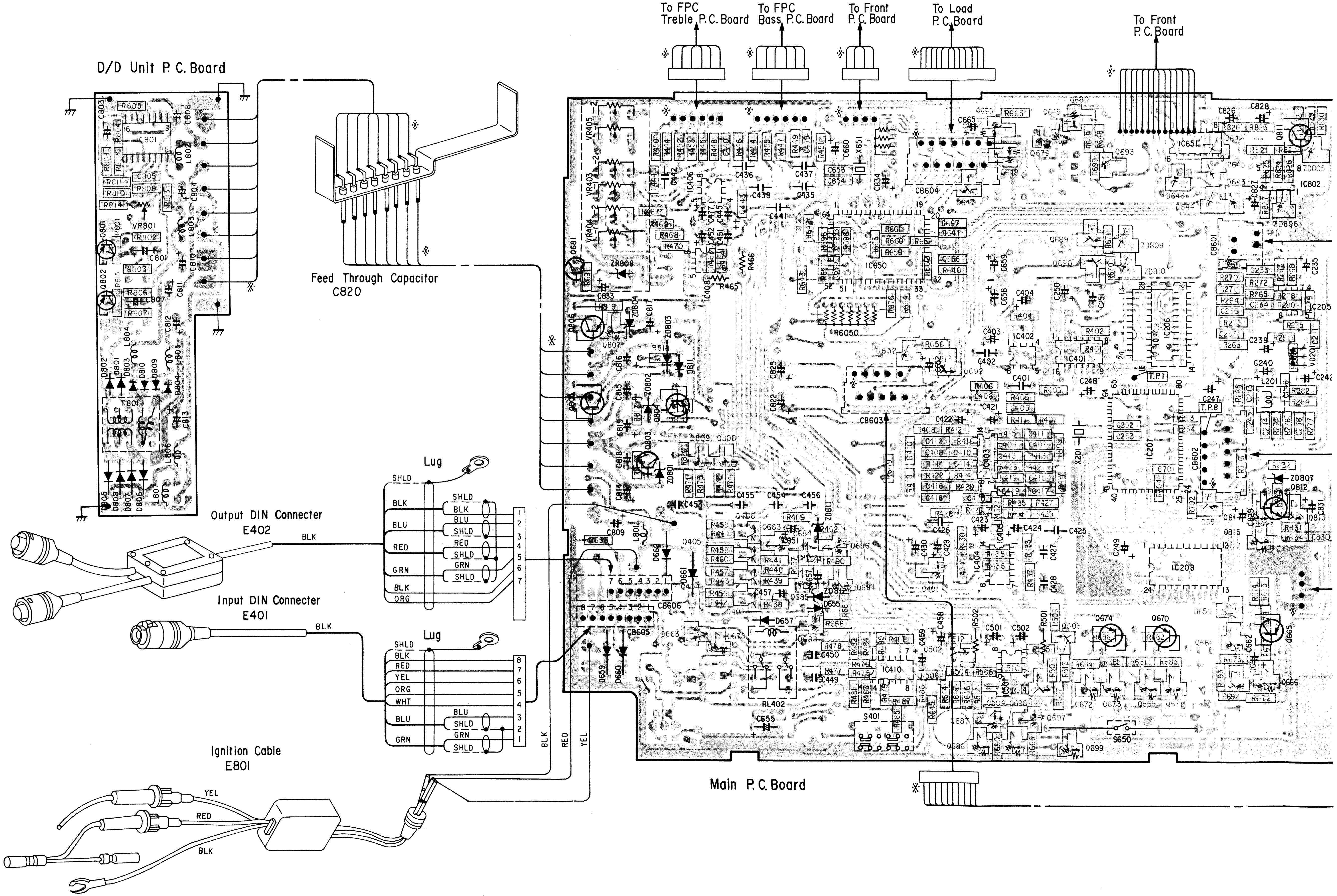
Block Diagram (North American model only)


E801 ground lead
ACC power lead
Battery Power lead
ACC +B
Battery +B
DC/DC convertor
+12V
-12V
+5V
-5V
Output DIN connector to Front Speaker Amp
E402
Output DIN connector rear speaker Amp
E401
Input DIN connector
Pause switch
remort switch
pause switch
Mute driver
input Isolator Amp
input Amp
mute control
Fader VR405-1
Fader VR405-2
RL402
Line Amp
Volume VR404-1
VR403 Balance
Volume VR404-2
Tone Amp
Bass
Treble
VR402-1
VR401-1
VR402-2
VR401-2
Amp
relay driver
S401
Signal Control
ACC +B
S918
S902~914
matrix switch
Scan indicater driver
LD901
LCD
LCD driver
PT660
PT661
Emphasis Amp
Sample Hold
Lowpass Filter
Emphasis ON/OFF switch
Acc detect switch
reset switch
Decorder
Loading END detect
Disk detect
EMF
PAUSE
GFS
WFCK
SCOR
SUBQ
CRCF
MUTG
FOK
APC
PLY
MUTE
ACC
REM
RESET
SCAN
CE CLK DATA
LDS3
LDS2
S652 END switch
LDS4
LMT SW
LDS5
micro computer
CLK
XLT
DATA
SENS
XRST
DIRC
LDRV
LDFW
LDSQ
door switch S651
D/A convertor
Digital Filter
Y1~Y16
SID (DATA)
BCKI (C210)
ABCI
WCKI
8bit RAM
RACS
RAWE
Address
RA01~RA11
DB01~DB08
VCOO
DATA
C210
LRCK
WDCK
VCOI
PDO
CLV PLL servo control
Digital Signal Processor circuit
MDS
MDP
MON
FSW
X RST
FEM
ASY
CNIN
Buzzer control
BZ650
Solenoid Driver
Solenoid
motor driver
M650
Loading solenoid driver
Solenoid driver
Solenoid
CLV servo control
CLV motor driver
Disk motor
MIRR
TZC
TE
FE
FEO
TAO
SLO
Servo signal processor
Forcus Amp
Tracking Amp
SLED Amp
Forcus Driver
Tracking Driver
SLED motor driver
Forcus coil
Tracking coil
SLED motor
Laser power control
PD
LD
Laser Diode
RF Amp Signal Processor
FOK
PD1
PD2
E
F
+5V
C
D
B
A
Optical block
Ditector
Limit switch

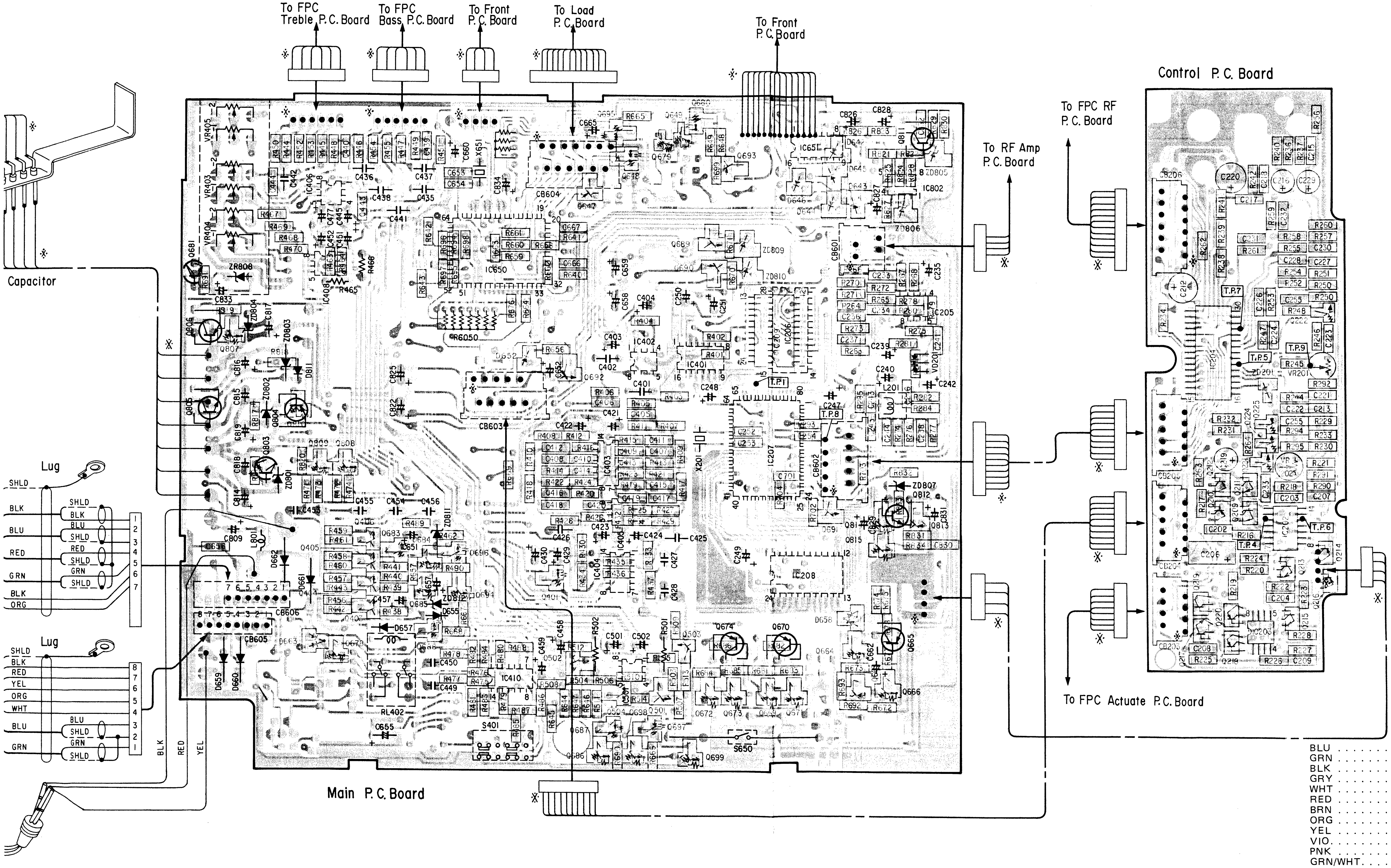
(European model only)


Power Lead
Relay box Control
E801 Ground Lead
ACC Power Lead
ACC +B
DC/DC Convertor
+12V
-12V
+5V
-5V
Battery +B
Output DIN Connector to Front speaker Amp
E402
Output DIN Connector to Rear speaker Amp
Input DIN Connector
E401
Pause Switch
Remote Switch
Pause Switch (PRE IN)
Mute Driver
Mute Control
Input isolator Amp
Input Amp
Fader
VR405-1
VR405-2
RL402
Line Amp
Volume
VR404-1
VR404-2
VR403 Balance
Tone Amp
Treble
Bass
VR401-1
VR402-1
VR401-2
VR402-2
Amp
Relay Driver
S401
Signal Control
Emphasis Amp
Sample Hold
Lowpass Filter
Emphasis ON/OFF Switch
D/A Convertor
Digital Filter
Y1 ~ Y16
SID (DATA)
BCKI
C210
ABCI
WCKI
8bit RAM
RACS
RAWE
RA01 ~ RA11
DB01 ~ DB08
VCOO
DATA
C210
LRCK
WDCK
VCOI
PDO
GFS
WFCK
SCOR
SUBQ
CRCF
MUDG
MDS
MDP
MON
FSW
XRST
SENS
DATA
XLT
CLK
FEM
ASY
CNIN
Digital Signal Processor circuit
CLV PLL Servo Control
MIRR
RF Amp Signal Processor
FOK
TE
FE
PD1
PD2
E
F
+5V
C
D
B
A
Optical block
Detector
Loser power Control
PD
LD
Loser Diode
ACC Detect Switch
S918
Reset Switch
EMF
PAUSE
PLY
MUTE
ACC
REM
RESET
LIGHT
SCAN
CE CLK DATA
LDS3
LDS2
LDS4
LMT SW
LDS5
FOK
APC
CLK
XLT
DATA
SENS
XRST
DIRC
Microcomputer
LDRV
LDFW
LDSO
LD901
Scan indicater Driver
S902~914
Matrix Switch
Decorder
LCD
LCD Driver
PT660
PT661
Loading END Defect
Disk Defect
S652 END Switch
Door Switch S651
Buzzer Control
BZ650
Solenoide Driver
Solenoide
Motor Driver
M650
Loading Solenoid Driver
Solenoid Driver
Solenoid
CLV Servo Control
CLV Motor Driver
Disk Motor
Limit Switch
MIRR
TZC
TE
FE
FEO
TAO
SLO
Servo Signal Processor
Forcus Amp
Tracking Amp
SLED Amp
Forcus Driver
Tracking Driver
SLED Motor Driver
Forcus Coil
Tracking Coil
SLED Motor
M

Parts Layout on P.C. Boards and Wiring Diagram (North American model only 1/2)

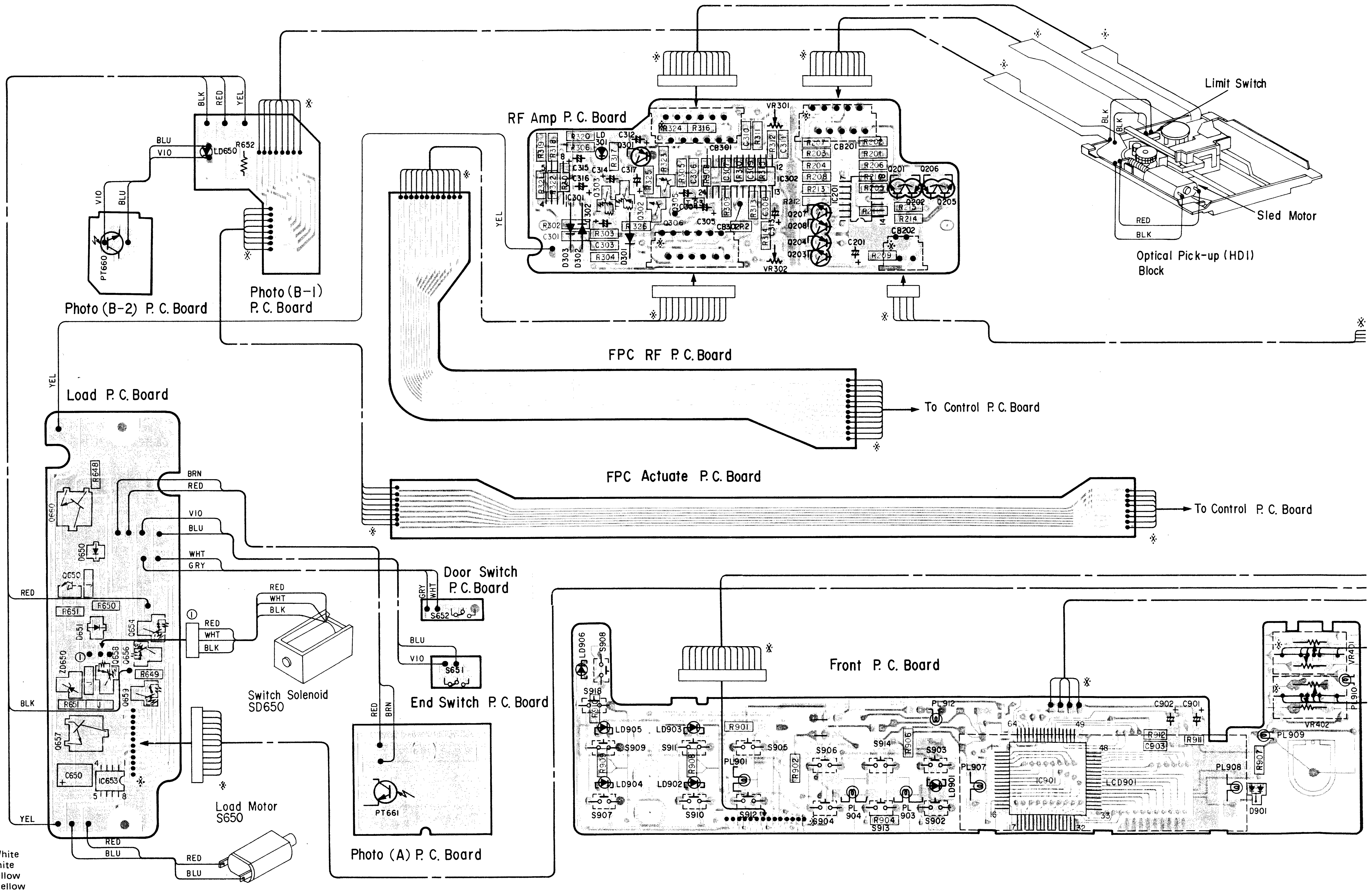

To FPC Treble P.C. Board
To FPC Bass P.C. Board
To Front P.C. Board
To Load P.C. Board
To Front P.C. Board
D/D Unit P.C. Board
Feed Through Capacitor C820
Lug
Output DIN Connecter E402
Input DIN Connecter E401
Ignition Cable E801
SHLD
BLK
BLU
RED
GRN
ORG
YEL
WHT
Main P.C. Board
CB606
CB605
CB603
CB604
CB601
CB602
IC650
IC651
IC802
IC801
IC206
IC207
IC208
IC401
IC402
IC403
IC404
IC405
IC406
IC410
RL402
S401
S650
X201
X651
T801
VR801
VR403
VR404
VR405
T.P.1
T.P.8

agram (North American model only 1/2)


To FPC Treble P.C. Board
To FPC Bass P.C. Board
To Front P.C. Board
To Load P.C. Board
To Front P.C. Board
Control P.C. Board
To FPC RF P.C. Board
To RF Amp P.C. Board
To FPC Actuate P.C. Board
Main P.C. Board
Capacitor
Lug
Lug
SHLD
BLK
BLU
RED
GRN
ORG
YEL
WHT
※
IC650
IC651
IC802
IC401
IC402
IC403
IC404
IC410
IC201
IC202
IC205
IC206
IC207
IC208
IC209
CB601
CB602
CB603
CB604
CB605
CB606
CB201
CB202
CB203
CB204
CB205
CB206
T.P.1
T.P.4
T.P.5
T.P.6
T.P.7
T.P.8
T.P.9
VR201
VR403
VR404
VR405
X201
X651
RL401
RL402
S401
S650

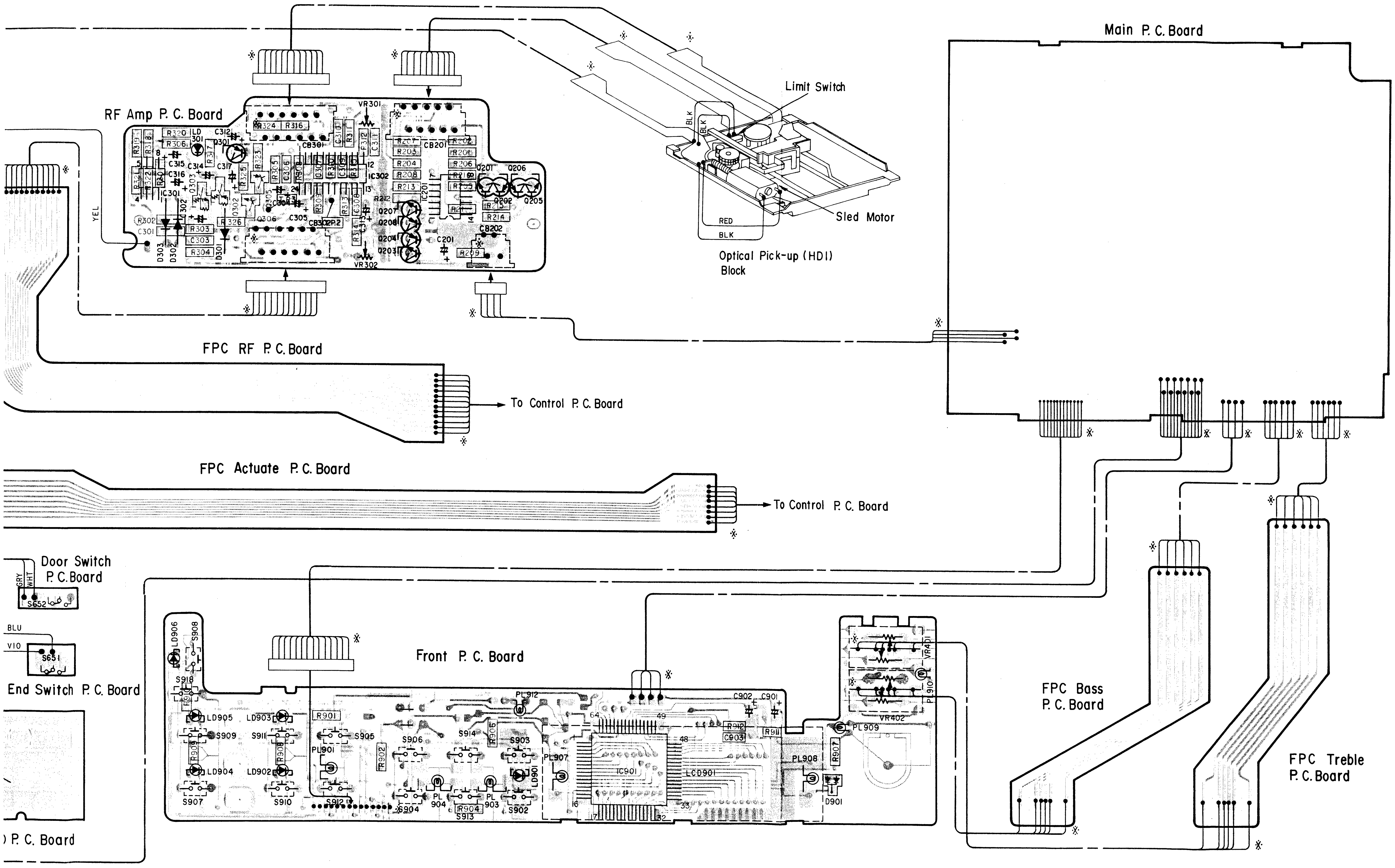
BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
VIO	Violet
PNK	Pink
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

Parts Layout on P.C. Boards and Wiring Diagram (North American model only 2/2)

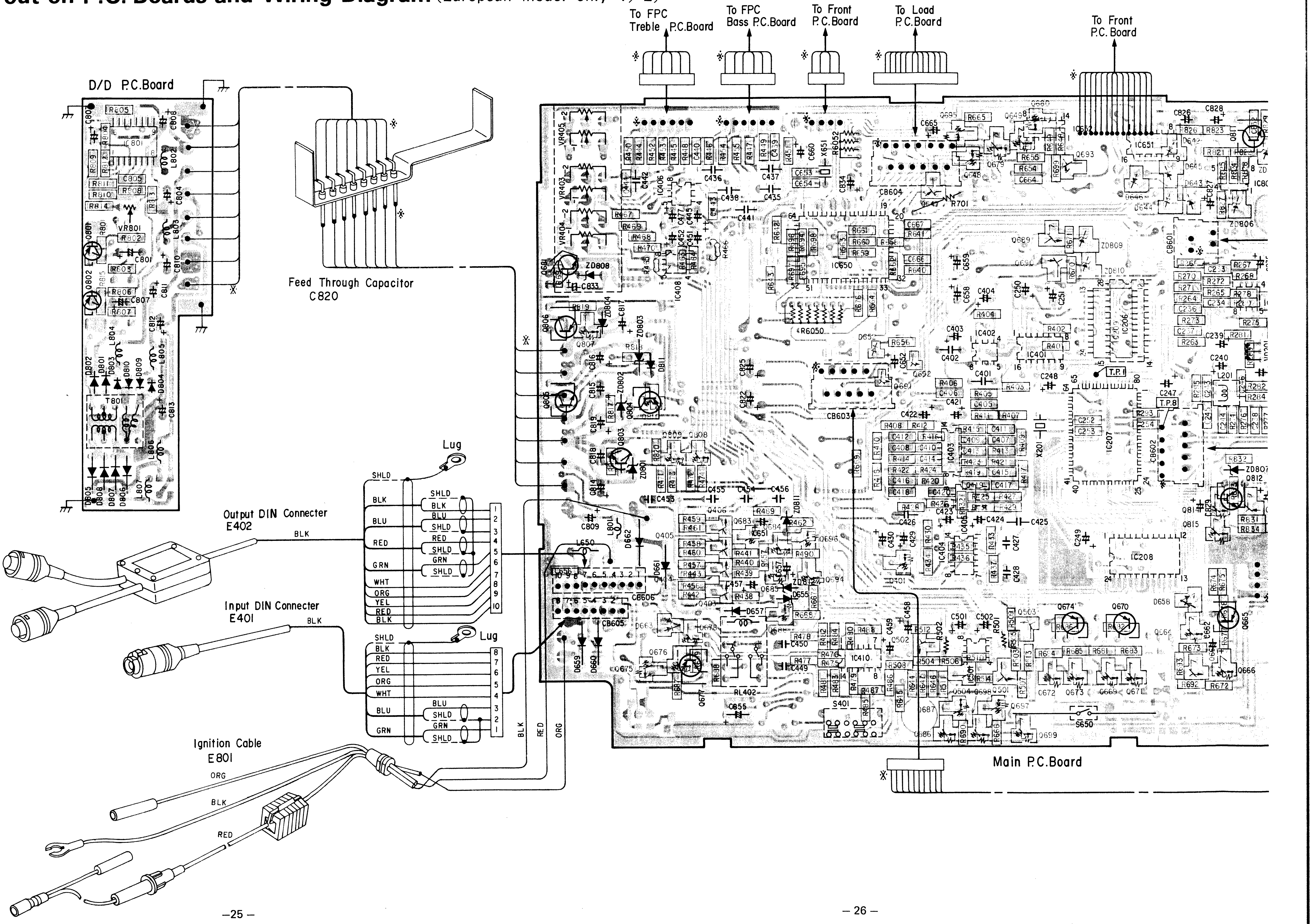

RF Amp P. C. Board
Limit Switch
Sled Motor
Optical Pick-up (HDI) Block
Photo (B-2) P. C. Board
Photo (B-1) P. C. Board
FPC RF P. C. Board
To Control P. C. Board
FPC Actuate P. C. Board
To Control P. C. Board
Load P. C. Board
Door Switch P. C. Board
Switch Solenoid SD650
End Switch P. C. Board
Front P. C. Board
Load Motor S650
Photo (A) P. C. Board
PT660
PT661
LD650
R652
S652
S651
IC901
LCD901
IC653
VR301
VR302
VR401
VR402
BLK
RED
YEL
BLU
VIO
BRN
WHT
GRY

BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
VIO.	Violet
PNK	Pink
GRN/WHT.	Green/White
GRY/WHT.	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD.	Shield

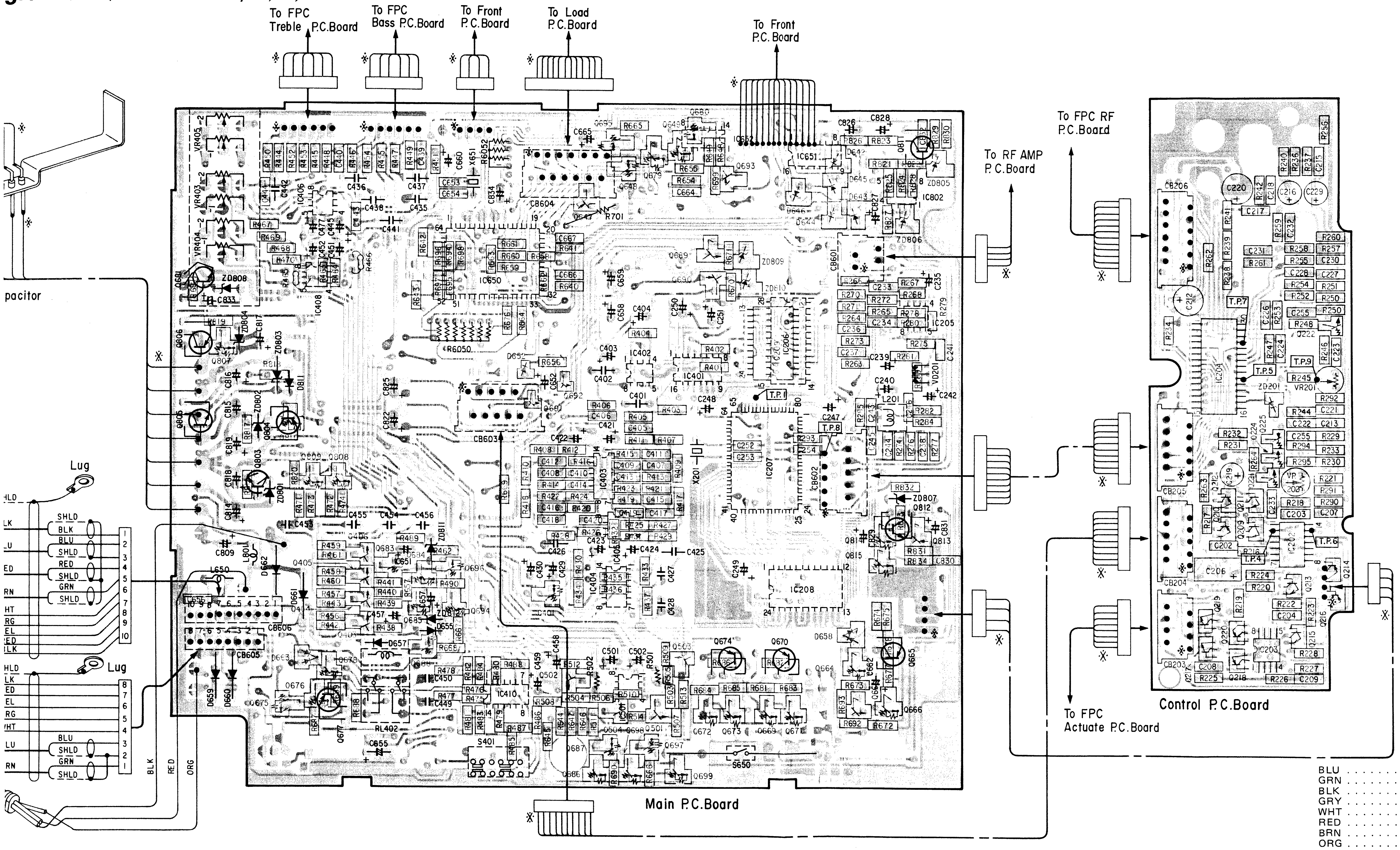
m (North American model only 2/2)


Main P. C. Board
Limit Switch
BLK
BLK
Sled Motor
RED
BLK
Optical Pick-up (HDI) Block
RF Amp P. C. Board
VR301
VR302
IC301
IC302
IC201
YEL
FPC RF P. C. Board
To Control P. C. Board
FPC Actuate P. C. Board
To Control P. C. Board
Door Switch P. C. Board
GRY
WHT
S652
BLU
VIO
S651
End Switch P. C. Board
) P. C. Board
Front P. C. Board
IC901
LCD901
VR401
VR402
PL909
PL908
D901
FPC Bass P. C. Board
FPC Treble P. C. Board
※

Parts Layout on P.C. Boards and Wiring Diagram (European model only 1/2)

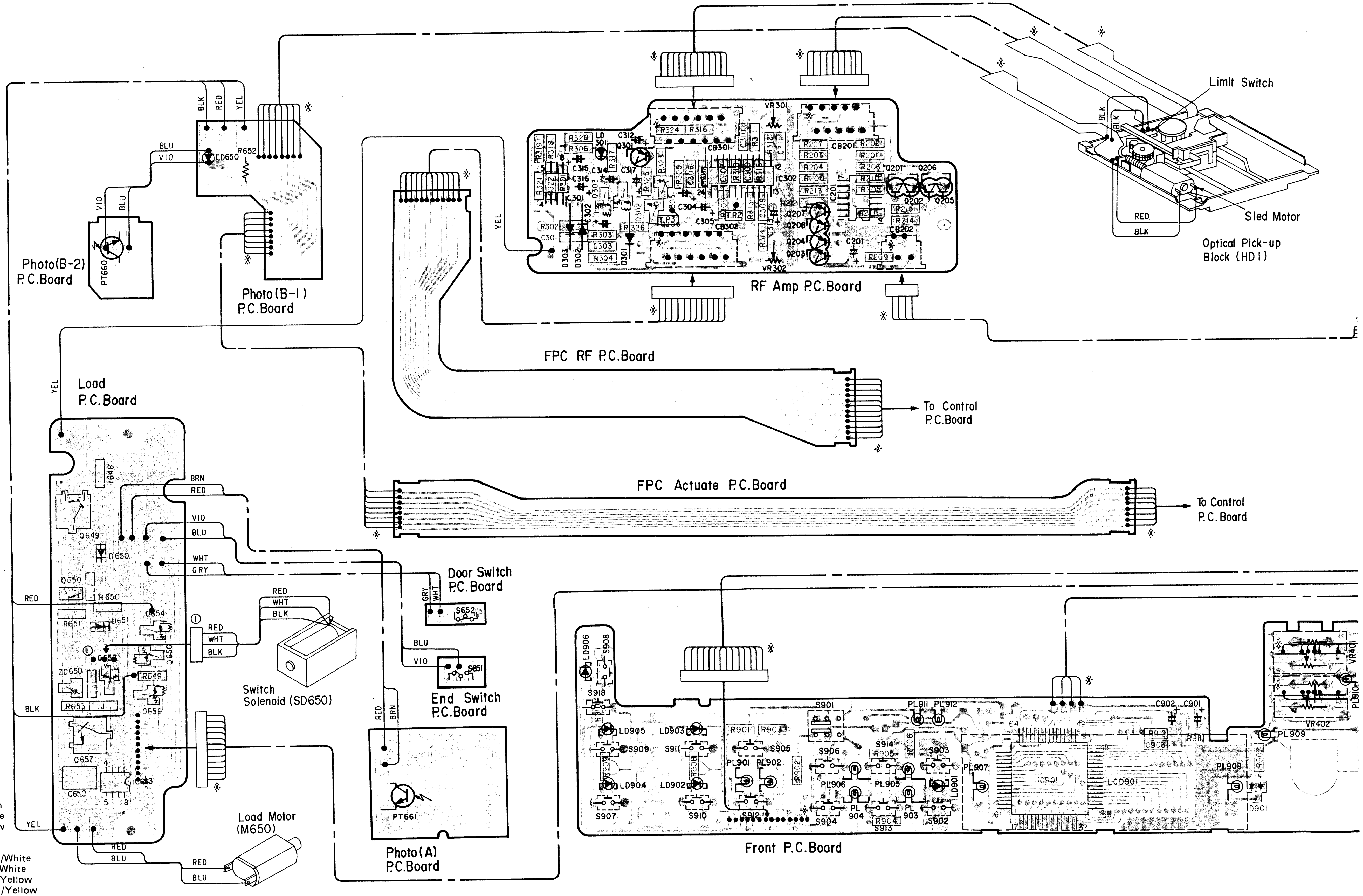

To FPC Treble P.C.Board
To FPC Bass P.C.Board
To Front P.C.Board
To Load P.C.Board
To Front P.C.Board
D/D P.C.Board
Feed Through Capacitor C820
Lug
Output DIN Connecter E402
Input DIN Connecter E401
Ignition Cable E801
SHLD
BLK
BLU
RED
GRN
WHT
ORG
YEL
Main P.C.Board
IC801
T801
VR801
IC651
IC650
IC206
IC207
IC208
IC401
IC402
IC403
IC404
IC406
IC408
IC410
IC652
CB601
CB602
CB603
CB604
CB605
CB606
RL402
S401
S650
X201
X651
T.P.1
T.P.8

gram (European model only 1/2)


To FPC Treble P.C.Board
To FPC Bass P.C.Board
To Front P.C.Board
To Load P.C.Board
To Front P.C.Board
To FPC RF P.C.Board
To RF AMP P.C.Board
pacitor
Lug
Lug
SHLD
BLK
BLU
RED
GRN
BLK
RED
ORG
Main P.C.Board
Control P.C.Board
To FPC Actuate P.C.Board
CB605
CB606
CB601
CB602
CB603
CB604
CB203
CB204
CB205
CB206
IC207
IC208
IC204
IC202
IC203
S401
S650
RL402
X201
VP202
VR201
T.P.1
T.P.4
T.P.5
T.P.6
T.P.7
T.P.8
T.P.9
※

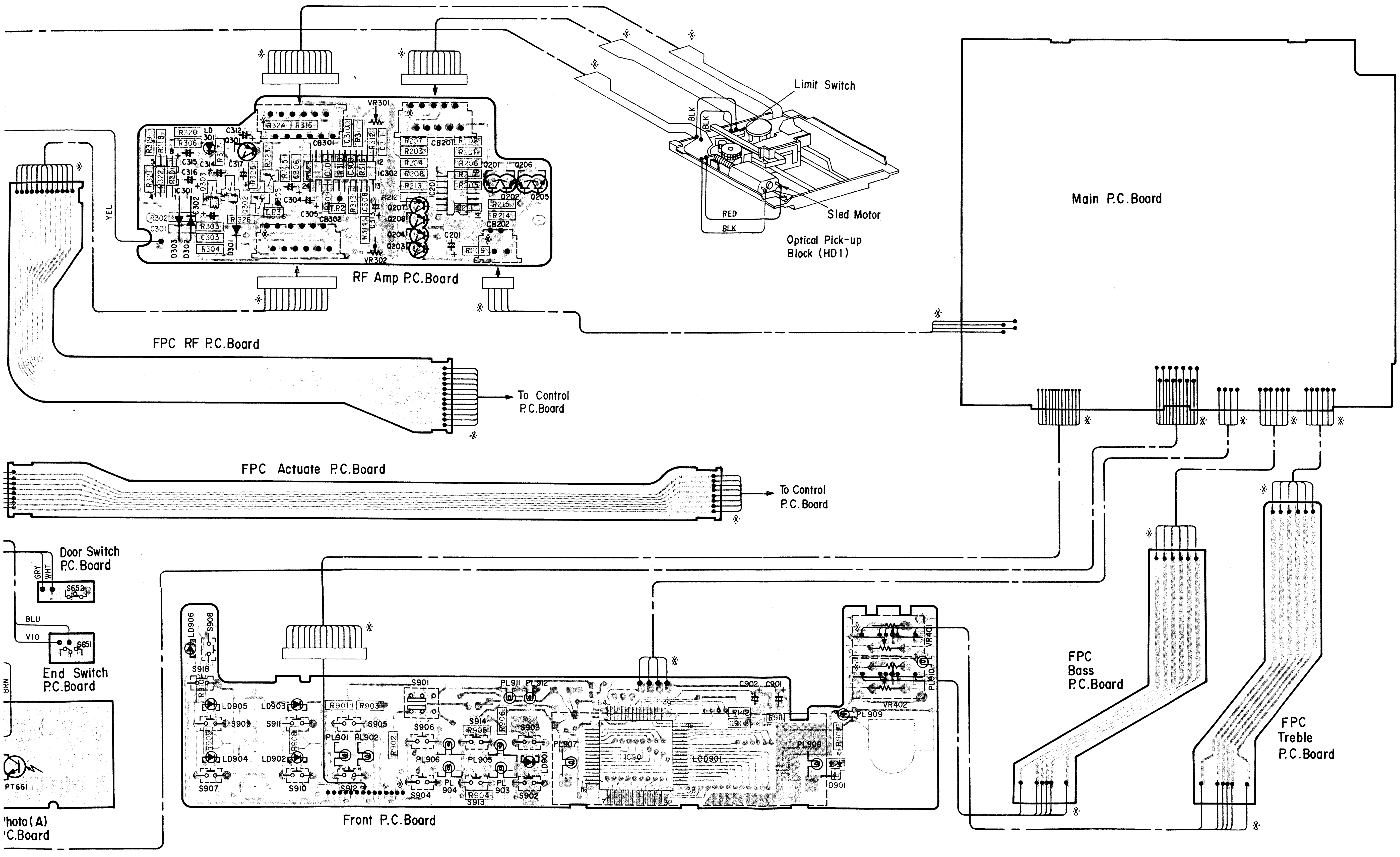
BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
VIO	Violet
PNK	Pink
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

Parts Layout on P.C. Boards and Wiring Diagram (European model only 2/2)


Limit Switch
Sled Motor
Optical Pick-up Block (HDI)
RF Amp P.C.Board
FPC RF P.C.Board
To Control P.C.Board
FPC Actuate P.C.Board
To Control P.C.Board
Photo(B-2) P.C.Board
PT660
Photo (B-1) P.C.Board
LD650
R652
Load P.C.Board
Door Switch P.C.Board
S652
End Switch P.C.Board
S651
Switch Solenoid (SD650)
Load Motor (M650)
Photo(A) P.C.Board
PT661
Front P.C.Board
LCD901
BLU
VIO
BLK
RED
YEL
BRN
WHT
GRY

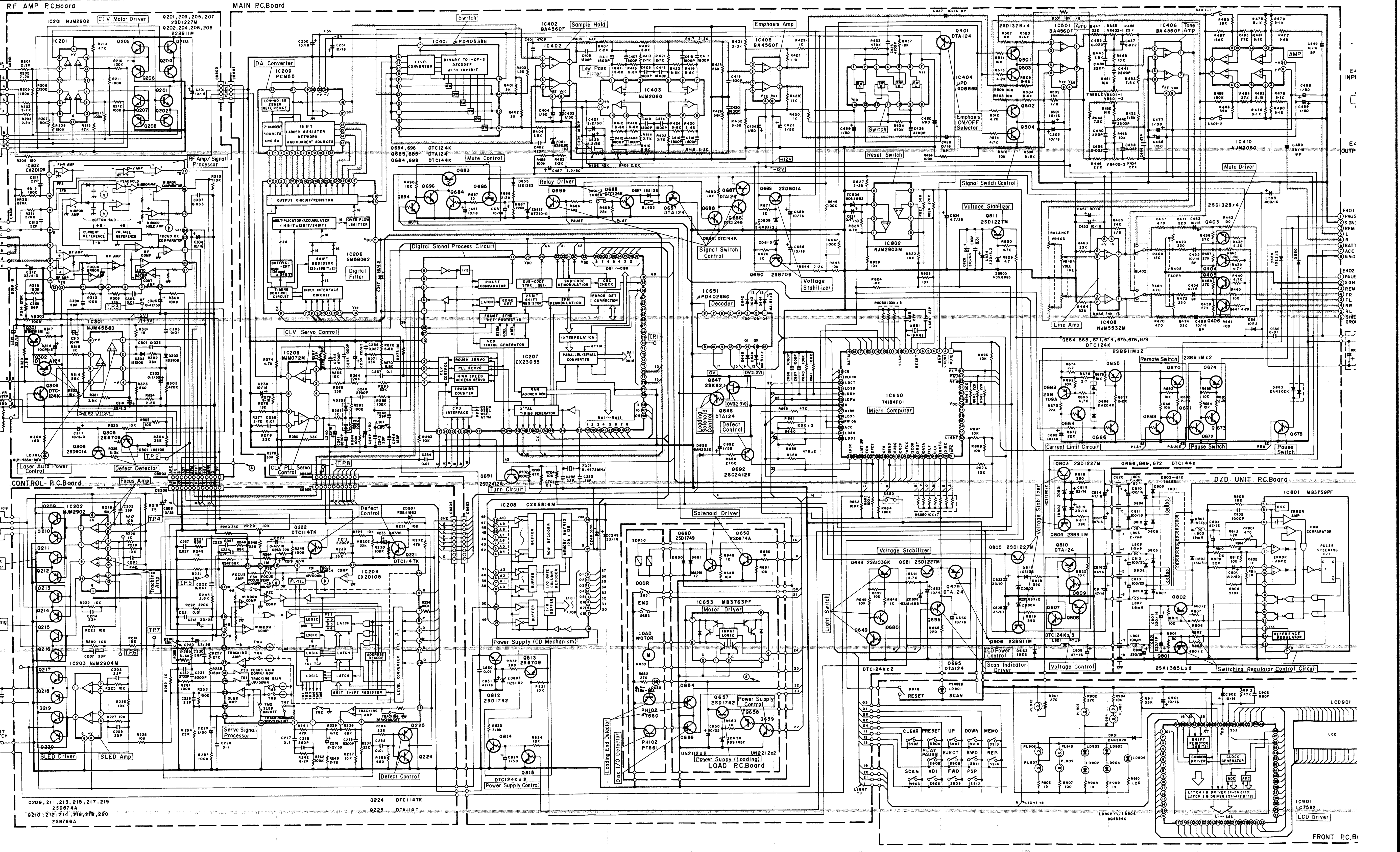
BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
VIO	Violet
PNK	Pink
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

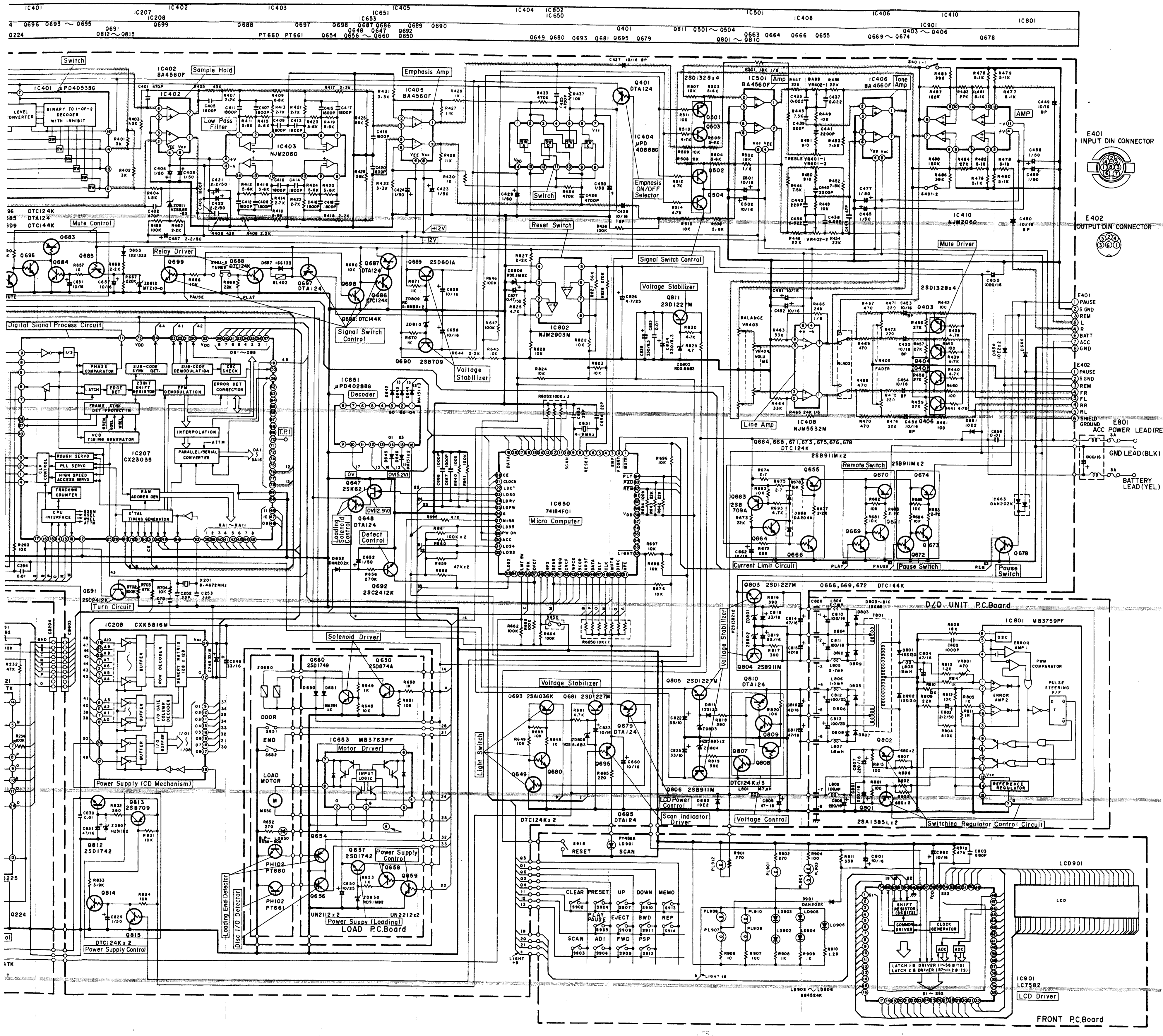
ram (European model only 2/2)


Limit Switch
BLK
BLK
RED
BLK
Sled Motor
Optical Pick-up Block (HD1)
Main P.C.Board
RF Amp P.C.Board
VR301
VR302
LD 301
Q301
IC301
IC302
IC201
CB301
CB302
CB201
CB202
Q201
Q202
Q203
Q204
Q205
Q206
Q207
Q208
T.P.2
T.P.3
C201
R324
R316
R320
R306
R319
R318
R321
R322
R302
R303
R304
R326
R202
R203
R204
R205
R206
R207
R208
R209
R213
R214
R215
C301
C302
C303
C305
C312
C314
C315
C316
C317
D301
D302
D303
YEL
FPC RF P.C.Board
To Control P.C.Board
FPC Actuate P.C.Board
To Control P.C.Board
Door Switch P.C.Board
GRY
WHT
S652
BLU
VIO
S651
End Switch P.C.Board
PT661
hoto(A)
C.Board
Front P.C.Board
LD906
S908
S918
LD905
LD903
LD904
LD902
S909
S911
S907
S910
R901
R903
S901
S905
S906
S914
S903
S912
S904
S913
S902
PL901
PL902
PL906
PL905
PL904
PL903
PL907
PL908
PL909
PL910
PL911
PL912
R902
R904
R905
R906
R907
R908
R909
R911
R912
C901
C902
C903
LD901
IC901
LC0901
D901
VR401
VR402
FPC Bass P.C.Board
FPC Treble P.C.Board
※

Schematic Diagram (North American model only)

IC	IC201 IC203 IC202 IC302 IC301 IC209 IC206 IC205 IC204 IC401 IC207 IC208 IC402 IC403 IC653 IC651 IC405 IC404 IC802 IC650 IC501 IC408 IC406 IC901 IC410 IC801
Transistor(Q,PT)	Q301～Q303 Q209～Q220 Q306 Q305 Q201～Q208 Q222 Q221 Q225 Q224 Q694 Q696 Q693～Q695 Q691 Q812～Q815 Q699 Q688 PT660 PT661 Q697 Q654 Q698 Q687 Q686 Q648 Q647 Q656～Q660 Q689 Q690 Q692 Q650 Q649 Q680 Q693 Q681 Q695 Q679 Q401 Q811 Q501～Q504 Q801～Q810 Q663 Q664 Q666 Q655 Q669～Q674 Q403～Q406 Q678


RF AMP P.C.Board
MAIN P.C.Board
CONTROL P.C.Board
LOAD P.C.Board
D/D UNIT P.C.Board
FRONT P.C.B
IC201 NJM2902
CLV Motor Driver
Q201,203,205,207 2SD1227M
Q202,204,206,208 2SB911M
OPTICAL PICK-UP BLOCK
RF Amp/Signal Processor
IC302 CX20109
IC301 NJM4558D
Servo Offset
Laser Auto Power Control
Defect Detector
Q305 2SB709
Q306 2SD601A
Switch
DA Converter
IC209 PCM55
IC401 μPD4053BG
Mute Control
Relay Driver
IC402 BA4560F
Sample Hold
Low Pass Filter
IC403 NJM2060
Emphasis Amp
IC405 BA4560F
IC404 μPD4068G
Emphasis ON/OFF Selector
Reset Switch
Q401 DTA124
IC501 BA4560F
Amp
IC406 BA4560F
Tone Amp
AMP
IC410 NJM2060
Mute Driver
Signal Switch Control
Voltage Stabilizer
Q811 2SD1227M
IC802 NJM2903M
Line Amp
IC408 NJM5532M
Digital Filter
IC206 SM5806S
CLV Servo Control
IC205 NJM072M
CLV PLL Servo Control
Digital Signal Process Circuit
IC207 CX23035
IC651 μPD4028BG
Decoder
Signal Switch Control
Loading Control
Defect Control
IC650 74184F01
Micro Computer
Remote Switch
Pause Switch
Current Limit Circuit
Focus Amp
IC202 NJM2902
Focus Driver
Tracking Driver
Tracking Amp
IC203 NJM2904M
SLED Driver
SLED Amp
IC204 CX20108
Servo Signal Processor
Defect Control
IC208 CXK5816M
Power Supply (CD Mechanism)
Power Supply Control
Solenoid Driver
IC653 MB3763PF
Motor Driver
Power Supply Control
Power Supply (Loading)
Loading End Detector
Disc I/O Detector
Light Switch
Voltage Stabilizer
LCD Power Control
Scan Indicator Driver
Voltage Control
IC801 MB3759PF
Switching Regulator Control Circuit
Turn Circuit
IC901 LC7582
LCD Driver
LCD901
CLEAR PRESET UP DOWN MEMO
PLAY PAUSE EJECT BWD REP
SCAN ADI FWD PSP
RESET SCAN
SLED MOTOR
LIMIT SWITCH
LOAD MOTOR
Q209,211,213,215,217,219 2SD874A
Q210,212,214,216,218,220 2SB766A
Q224 DTC114TK
Q225 DTA114T


Switch
Sample Hold
Low Pass Filter
Emphasis Amp
Amp
Tone Amp
AMP
Mute Control
Relay Driver
Reset Switch
Signal Switch Control
Voltage Stabilizer
Mute Driver
Switch
Emphasis ON/OFF Selector
Digital Signal Process Circuit
Signal Switch Control
Voltage Stabilizer
Decoder
Micro Computer
Line Amp
Remote Switch
Current Limit Circuit
Pause Switch
Pause Switch
Defect Control
Sled Motor Control
Turn Circuit
Solenoid Driver
Motor Driver
Voltage Stabilizer
Light Switch
Power Supply (CD Mechanism)
Power Supply Control
Power Supply (Loading)
LOAD P.C.Board
Loading End Detector
Disc I/O Detector
Power Supply Control
LCD Power Control
Scan Indicator Driver
Voltage Control
Switching Regulator Control Circuit
D/D UNIT P.C.Board
LCD Driver
FRONT P.C.Board
E401 INPUT DIN CONNECTOR
E402 OUTPUT DIN CONNECTOR
E801 ACC POWER LEAD(RED)
GND LEAD(BLK)
BATTERY LEAD(YEL)
IC650 74184F01 Micro Computer
IC207 CX23035
IC208 CXK5816M
IC801 MB3759PF
IC901 LC7582
LCD901

	E	C	B
Q201		10.3V	PS
Q202		0V	PS
Q203	PS	10.3V	PS
Q204	PS	0V	PS
Q205	0V	10.3V	PS
Q206	0V		PS
Q207		10.3V	PS
Q208		0V	PS
Q209	PS		PS
Q210	PS		PS
Q211	PS		PS
Q212	PS		PS
Q213	PS		PS
Q214	PS		PS
Q215 ~ Q219	PS		PS
Q220	PS		PS
Q221	0V	PS	PS(-3.66V)
Q222		PS	PS(-3.65V)
Q224	0V	0V	PS
Q225	0V	0V	PS
Q301	4V	2.4V	3.3V
Q302	4.6V	3.3V	4.6V
Q303	0V	4.6V	0V
Q305	PS	-5.1V	PS
Q306	4.6V	3.8V	4.4V
Q401	5.2V	5.2V	-5.2V
Q403	-9.8V(0.7V)	0V	0V
Q404	0V	0V	
Q405	0V	0V	
Q406	0V	0V	
Q501	0V	0V	0.7V(-9.6V)
Q502	0V	0V	0.7V(-9.6V)
Q503	0V	0V	-9.6V(0.7V)
Q504	0V	0V	-9.6V(0.7V)
Q648	13V	0V	0V(12.9V)
Q649	0V	9.5V(0V)	0V(3.9V)
Q654	5.1V		5.1V (0.1V)
Q656	5.2V(1.4V)		5.2V (0.1V)
Q657	(7.3V)	13V(12.6V)	0.1V (8V)
Q658	13V(12.6V)	0V(12.6V)	12.9V(0V)
Q659		12.9V(0V)	0V(5.2V)
Q660	0V	13V(1V)	0V(1.7V)
Q663	13.2V	0V	13.2V
Q664	0V	13.2V	0V
Q665	13.2V	13.2V	12.5V
Q666	0V	0.2V	2.8V
Q669	0V	9.3V (0V)	0V(5.1V)
Q670		13.1V (0V)	12.5V (12.9V)
Q671	0V	0V (13V)	9.3V (0V)
Q672	0V	9.3V (0V)	0V(5.1V)
Q673	0V	0V (13.2V)	9.3V(0V)
Q674		13.1V (0V)	12.5V (13.1V)

	E	C	B
Q678	0V	5V (0V)	0V(13.2V)
Q679	5.1V	5.1V	0V
Q680	0V	0V (13.9V)	9.5V (0V)
Q681	5.1V	13.6V	5.7V
Q683	13.2V	-9.8V (-13.2V)	13.1V(0V)
Q684	0V	13.1V(0V)	0V
Q685	9.8V	0V	13.6V
Q686		0V(13.6V)	9.6V(0V)
Q687	13.6V	13.5V (-9.6V)	0V(13.6V)
Q688	0V	13.6V (0.8V)	0V(3.7V)
Q689	5.2V	12.4V	5.8V
Q690	-5.2V	-12.4V	-5.8V
Q691	0V	4.6V	0V
Q692	0V	4.6V	0V
Q693	13.5V	13.4V(0V)	12.7V(13.9V)
Q694	0V	0V (9.6V)	5.1V(0V)
Q695	5.1V	0V (4.7V)	5.1V (0V)
Q696	0V	13.1V	0V(9.6V)
Q697	13.6V	-9.6V(13.7V)	13.4V(0V)
Q698		9.6V (0V)	0V (4.4V)
Q699	0V	13.4V (0V)	0V (5.1V)
Q801	13.4V	0V	13.3V
Q802	13.4V	0V	13.2V
Q803	12.4V	13.6V	13V
Q804	-12.4V	13.6V	-13.1V
Q805	4.6V	6.2V	5.3V
Q806	-5.2V	-6.7V	-6.6V
Q807	-6.7V	-6.6V	6.2V
Q808	8.7V	0V	0V
Q809	0V	0V	8.7V
Q810	6.2V	6.2V	0V
Q811	5.2V	12.95V	5.8V
Q812	10.2V (0V)	13.5V(13.6V)	10.9V (0V)
Q813	13.5V(13.6V)		12.7V (13.6V)
Q814		0V(13.6V)	8.8V(0V)
Q815			0V(5.2V)
Q650	0V	13V (1V)	0V(0.8V)

IC201

1	PS
2	PS
3	5.2V
4	10.4V
5	PS
6	PS
7	PS
8	PS
9	PS
10	PS
11	0V
12	5.21V
13	PS
14	PS

IC203

1	PS
2	5.16V
3	5.15V
4	0V
5	2.59V
6	2.59V
7	PS
8	10.23V

IC204

1 ~ 5	PS
6	0.11V
7	4.41V
8 ~ 10	PS
11	0V
12	PS
13	PS
14	-4.3V
15	4.57V
16	0.2V
17	-5.02V
18	0V
19 ~ 22	PS
23	0V
24	PS
25	PS
26	4.43V
27 ~ 29	PS
30	0V

IC207

1	PS	29 ~ 32	PS
2	4.48V	33	4.58V
3 ~ 6	PS	34 ~ 51	PS
7	0V	52	0V
8	PS	53	PS
9	PS	54	PS
10	0V	55 ~ 59	0V
11	PS	60	PS
12	0V	61	PS
13 ~ 15	PS	62 ~ 64	0V
16	4.42V	65 ~ 72	PS
17	0.11V	73	4.58V
18	PS	74 ~ 80	PS
19	0V		
20	4.58V		
21	HI-IMP		
22 ~ 26	PS		
27	0.41V		
28	4.58V		

IC208

1 ~ 23	PS
24	4.58V

IC209

1 ~ 18	PS
19 ~ 22	0V
23	5.2V
24	-5.1V

IC301

1	-3.72V
2	1.77V
3	1.67V
4	-5.03V
5	-3.29V
6	-3.29V
7	3.13V
8	4.37V

IC202

1	PS
2	PS
3	2.55V
4	10.2V
5	5.14V
6	PS
7	PS
8	PS
9	PS
10	5.13V
11	0V
12	2.59V
13	PS
14	PS

IC205

1	PS
2	5.16V
3	5.15V
4	0V
5	2.59V
6	2.59V
7	PS
8	10.23V

IC206

1 ~ 4	PS
5	4.6V
6	PS
7	4.6V
8	PS
9	PS
10	4.6V
11	4.6V
12	PS
13	PS
14	0V
15 ~ 28	PS

IC302

1	4.42V
2 ~ 8	0V
9	-0.92V
10	-0.71V
11	0V
12	0V
13	-5.03V
14	-0.12V
15	-0.12V
16	0V
17	0.07V
18	0V
19	0.04V
20	PS
21	4.58V
22	2.3V
23	4.57V
24	4.56V

IC401

1 ~ 6	0V
7	-5.22V
8	0V
9	PS
10	0V
11	PS
12 ~ 15	0V
16	5.23V

IC402

1	PS
2	0V
3	0V
4	-12.47V
5	0V
6	0V
7	PS
8	12.45V

IC403

1 ~ 3	PS
4	12.46V
5 ~ 10	PS
11	-12.48V
12 ~ 14	PS

IC404

1 ~ 4	PS
5	-5.23V
6	-5.23V
7	-5.24V
8 ~ 11	PS
12	-5.23V
13	-5.23V
14	-5.25V

IC405

1 ~ 3	PS
4	-12.5V
5 ~ 7	PS
8	12.48V

IC406

1	PS
2	0V
3	0V
4	-12.57V
5	0V
6	0V
7	PS
8	12.54V

IC410

1 ~ 3	0V
4	12.5V
5 ~ 10	0V
11	-12.4V
12 ~ 14	0V

IC501

1 ~ 3	0V
4	-12.4V
5 ~ 7	0V
8	12.5V

IC650

1	5.1V (0V)
2	0V (5.1V)
3	5.1V (0V)
4	0V
5	0V
6	0V
7	5V
8	PS
9	PS
10	5.1V (0V)
11 ~ 14	0V
15 ~ 17	PS
18	0V
19 ~ 21	PS
22 ~ 26	0V
27	5.1V
28	5.1V
29	4.8V
30	4.8V
31 ~ 33	5.1V
34	2V
35	5V
36	4.5V
37	0V
38	0V
39 ~ 41	PS
42	4.7V
43	PS
44	PS
45	0V
46 ~ 48	PS
49	0V
50	4.7V
51	0V
52	0V (3.9V)
53 ~ 56	0V
57	4.3V
58	5.1V
59 ~ 61	0V
62	5V
63	0V
64	0V

IC651

1 ~ 4	PS
5	0V
6	PS
7	PS
8	0V
9	0V
10	PS
11	0V
12 ~ 15	PS
16	5.22V

IC653

1	0V (5.14V)
2	0V (0.04V)
3	0V (0.04V)
4	0V (5.14V)
5	0.2V (6.53V)
6	0V (7.24V)
7	0V (7.23V)
8	0.2V (1.26V)

IC801

1	2.56V
2	2.56V
3	3.13V
4	0.22V
5	PS
6	3.78V
7	0V
8	11.97V
9	0V
10	0V
11	PS
12	13.48V
13	5.1V
14	5.1V
15	5.1V
16	0V

IC802

1	5.19V
2	2.91V
3	4.99V
4	0V
5	5.21V
6	2.61V
7	5.22V
8	5.23V

IC901

1 ~ 23	PS
24	5.35V
25 ~ 55	PS
56	5.35V
57	4.92V
58	5.35V
59	PS
60	PS
61	0V
62	PS
63	PS
64	PS
65	0V
66	PS

Measureing Condition

1. Power Supply Voltage
   DC 14V
2. Measuring Meter
   Synchroscope with Multimeter
3. Measuring Point Reference
   Between GND
4. Measuring Condition
   Signal Input

In CD, measurement was performed under repeat condition set for 2nd test signal (1KHz sinewave) band of YEDS-18.

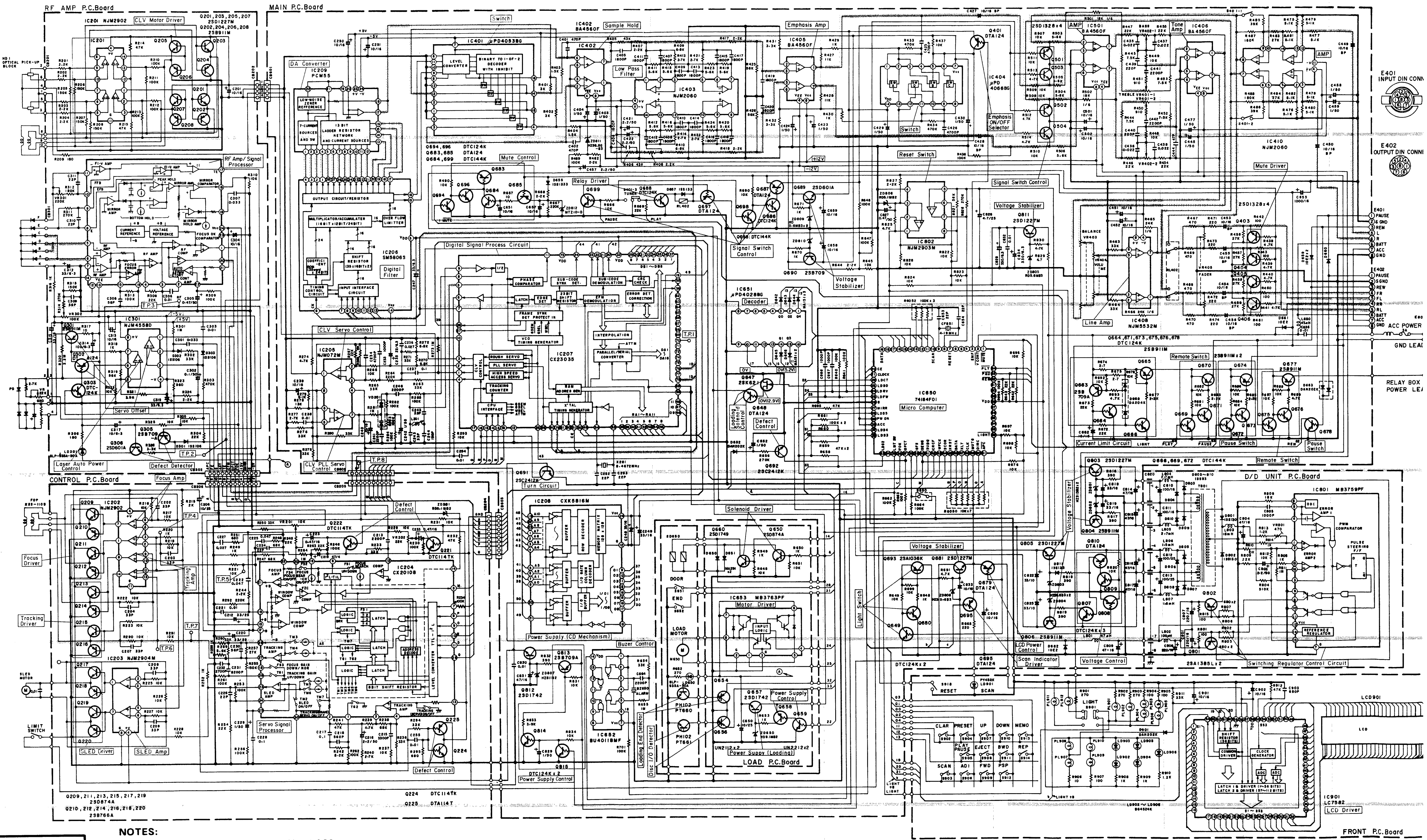
NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

5902

Schematic Diagram (European model only)

IC	IC201 IC203 IC302 IC301 IC202	IC209 IC205 IC206 IC204	IC401	IC207 IC208	IC402 IC652	IC403	IC651 IC653 IC405	IC404 IC802 IC650		IC501	IC408	IC406	IC901	IC410	IC801
Transistor (Q,PT)	Q301 ～ Q303 Q209 ～ Q220 Q306 Q305 Q201 ～ Q208	Q222	Q221 Q225 Q224 Q694 Q693 Q683 ～ Q685	Q691 Q812 ～ Q815	Q699	Q688 PT660 PT661 Q697	Q654 Q648 Q656 ～ Q659 Q698 Q687 Q647 Q692 Q650 Q686 Q689 Q690	Q649 Q680 Q693 Q681 Q695 Q679	Q401	Q501 ～ Q504 Q811	Q663 Q664 Q801 ～ Q810 Q655	Q669 ～ Q678	Q403 ～ Q406		

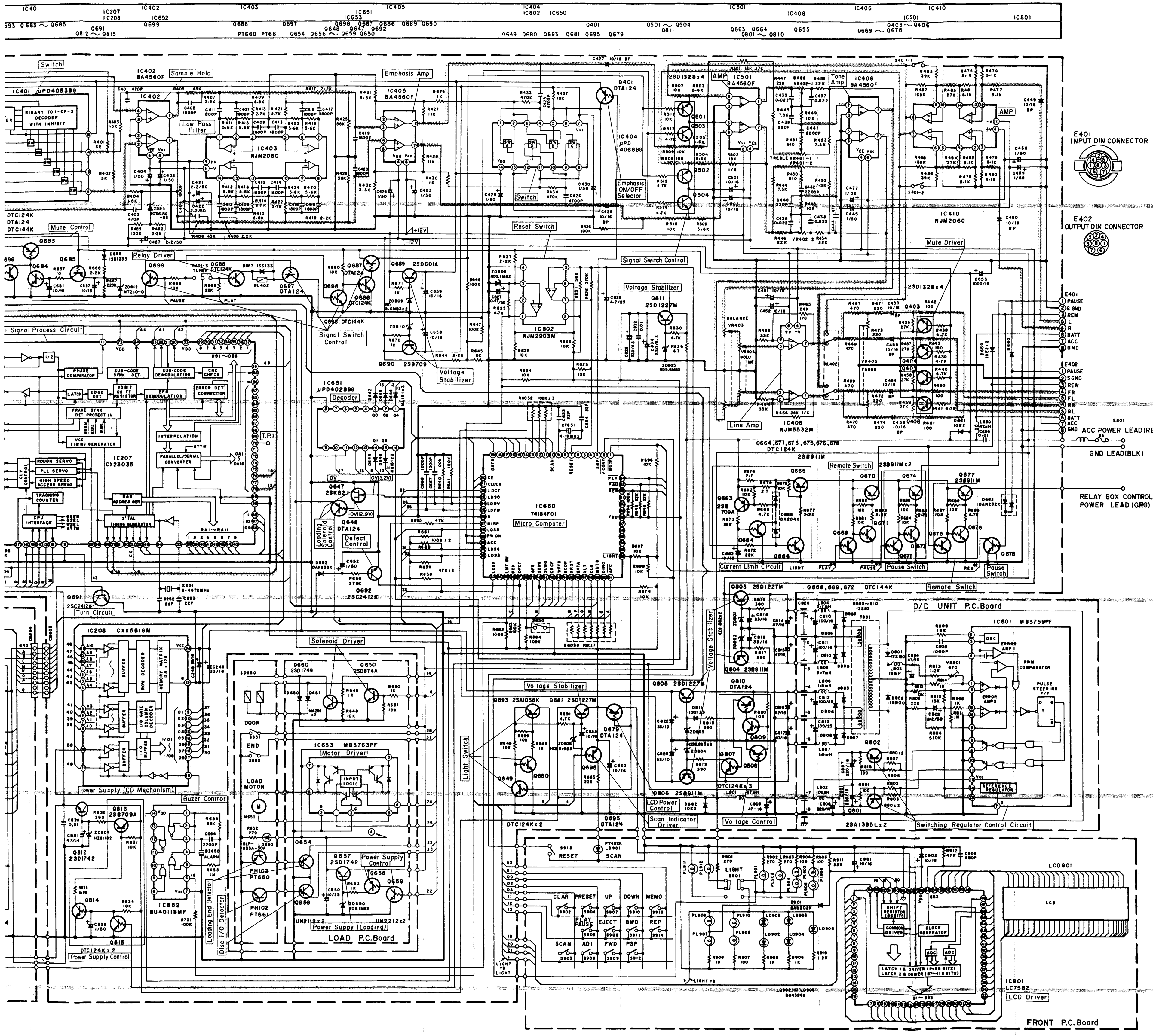


RF AMP P.C.Board
MAIN P.C.Board
CONTROL P.C.Board
LOAD P.C.Board
D/D UNIT P.C.Board
FRONT P.C.Board
CLV Motor Driver
RF Amp/ Signal Processor
Servo Offset
Laser Auto Power Control
Defect Detector
Focus Amp
Focus Driver
Tracking Driver
Tracking Amp
SLED Driver
SLED Amp
Servo Signal Processor
Defect Control
DA Converter
IC209 PCM55
Digital Filter
IC206 SM5806S
CLV Servo Control
CLV PLL Servo Control
Digital Signal Process Circuit
IC207 CX23035
Turn Circuit
IC208 CXK5816M
Power Supply (CD Mechanism)
Buzer Control
Solenoid Driver
IC653 MB3763PF
Motor Driver
Power Supply Control
Power Supply (Loading)
Disc I/O Detector
Loading End Detector
Switch
IC401 μPD4053BG
Sample Hold
Low Pass Filter
IC403 NJM2060
Emphasis Amp
IC405 BA4560F
Emphasis ON/OFF Selector
IC404 μPD4066BG
Mute Control
Relay Driver
Reset Switch
Signal Switch Control
Signal Switch Control
Voltage Stabilizer
IC802 NJM2903M
IC651 μPD4028BG
Decoder
Loading Control
Defect Control
IC650 7418AF01
Micro Computer
AMP
IC501 BA4560F
Tone Amp
IC406 BA4560F
IC410 NJM2060
Mute Driver
Line Amp
IC408 NJM5532M
Remote Switch
Pause Switch
LCD Power Control
Scan Indicator Driver
Voltage Control
Switching Regulator Control Circuit
IC801 MB3759PF
Light Switch
CLEAR PRESET UP DOWN MEMO
PLAY PAUSE EJECT BWD REP
SCAN ADI FWD PSP
RESET SCAN
IC901 LC7582
LCD Driver
LCD901
E401 INPUT DIN CONN
E402 OUTPUT DIN CONN
RELAY BOX POWER LEAD
ACC POWER
GND LEAD
SLED MOTOR
LIMIT SWITCH
LOAD MOTOR
DOOR
END

5902

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$



	E	C	B
Q201		10.3V	PS
Q202		0V	PS
Q203	PS	10.3V	PS
Q204	PS	0V	PS
Q205	0V	10.3V	PS
Q206	0V		PS
Q207		10.3V	PS
Q208		0V	PS
Q209	PS		PS
Q210	PS		PS
Q211	PS		PS
Q212	PS		PS
Q213	PS		PS
Q214	PS		PS
Q215～Q219	PS		PS
Q220	PS		PS
Q221	0V	PS	PS(-3.66V)
Q222		PS	PS(-3.65V)
Q224	0V	0V	PS
Q225	0V	0V	PS
Q301	4V	2.4V	3.3V
Q302	4.6V	3.3V	4.6V
Q303	0V	4.6V	0V
Q305	PS	-5.1V	PS
Q306	4.6V	3.8V	4.4V
Q401	5.2V	5.2V	-5.2V
Q403	-9.8V(0.7V)	0V	0V
Q404	0V	0V	
Q405	0V	0V	
Q406	0V	0V	
Q501	0V	0V	0.7V(-9.6V)
Q502	0V	0V	0.7V(-9.6V)
Q503	0V	0V	-9.6V(0.7V)
Q504	0V	0V	-9.6V(0.7V)
Q648	13V	0V	0V(12.9V)
Q649	0V	9.5V(0V)	0V(3.9V)
Q654	5.1V		5.1V (0.1V)
Q656	5.2V(1.4V)		5.2V (0.1V)
Q657	(7.3V)	13V(12.6V)	0.1V (8V)
Q658	13V(12.6V)	0V(12.6V)	12.9V(0V)
Q659		12.9V(0V)	0V(5.2V)
Q660	0V	13V(1V)	0V(1.7V)
Q663	13.2V	0V	13.2V
Q664	0V	13.2V	0V
Q665	13.2V	13.2V	12.5V
Q666	0V	0.2V	2.8V
Q669	0V	9.3V (0V)	0V(5.1V)
Q670		13.1V (0V)	12.5V (12.9V)
Q671	0V	0V(13V)	9.3V (0V)
Q672	0V	9.3V (0V)	0V(5.1V)
Q673	0V	0V (13.2V)	9.3V(0V)
Q674		13.1V (0V)	12.5V(13.1V)

	E	C	B
Q678	0V	5V (0V)	0V(13.2V)
Q679	5.1V	5.1V	0V
Q680	0V	0V (13.9V)	9.5V (0V)
Q681	5.1V	13.6V	5.7V
Q683	13.2V	-9.8V(-13.2V)	13.1V(0V)
Q684	0V	13.1V(0V)	0V
Q685	9.8V	0V	13.6V
Q686		0V(13.6V)	9.6V(0V)
Q687	13.6V	13.5V (-9.6V)	0V(13.6V)
Q688	0V	13.6V (0.8V)	0V(3.7V)
Q689	5.2V	12.4V	5.8V
Q690	-5.2V	-12.4V	-5.8V
Q691	0V	4.6V	0V
Q692	0V	4.6V	0V
Q693	13.5V	13.4V(0V)	12.7V(13.9V)
Q694	0V	0V (9.6V)	5.1V(0V)
Q695	5.1V	0V (4.7V)	5.1V (0V)
Q696	0V	13.1V	0V(9.6V)
Q697	13.6V	-9.6V(13.7V)	13.4V(0V)
Q698		9.6V(0V)	0V (4.4V)
Q699	0V	13.4V (0V)	0V (5.1V)
Q801	13.4V	0V	13.3V
Q802	13.4V	0V	13.2V
Q803	12.4V	13.6V	13V
Q804	-12.4V	13.6V	-13.1V
Q805	4.6V	6.2V	5.3V
Q806	-5.2V	-6.7V	-6.6V
Q807	-6.7V	-6.6V	6.2V
Q808	8.7V	0V	0V
Q809	0V	0V	8.7V
Q810	6.2V	6.2V	0V
Q811	5.2V	12.95V	5.8V
Q812	10.2V (0V)	13.5V(13.6V)	10.9V (0V)
Q813	13.5V(13.6V)		12.7V (13.6V)
Q814		0V(13.6V)	8.8V(0V)
Q815			0V(5.2V)
Q650	0V	13V (1V)	0V(0.8V)

	E	C	B
Q675	0V	(9.3V)/0V	(0V)/13.1V
Q676	(9.3V)/0V	(0V)/13.1V	0V
Q677	13.2V	(13.2V)/0V	(12.5V)/13.1V

IC201

1	PS
2	PS
3	5.2V
4	10.4V
5	PS
6	PS
7	PS
8	PS
9	PS
10	PS
11	0V
12	5.21V
13	PS
14	PS

IC203

1	PS
2	5.16V
3	5.15V
4	0V
5	2.59V
6	2.59V
7	PS
8	10.23V

IC204

1～5	PS
6	0.11V
7	4.41V
8～10	PS
11	0V
12	PS
13	PS
14	-4.3V
15	4.57V
16	0.2V
17	-5.02V
18	0V
19～22	PS
23	0V
24	PS
25	PS
26	4.43V
27～29	PS
30	0V

IC207

1	PS	29～32	PS
2	4.48V	33	4.58V
3～6	PS	34～51	PS
7	0V		
8	PS		
9	PS	52	0V
10	0V	53	PS
11	PS	54	PS
12	0V	55～59	0V
13～15	PS	60	PS
16	4.42V	61	PS
17	0.11V	62～64	0V
18	PS		
19	0V		
20	4.58V	65～72	PS
21	HI-IMP		
22～26	PS	73	4.58V
27	0.41V	74～80	PS
28	4.58V		

IC208

1～23	PS
24	4.58V

IC209

1～18	PS
19～22	0V
23	5.2V
24	-5.1V

IC301

1	-3.72V
2	1.77V
3	1.67V
4	-5.03V
5	-3.29V
6	-3.29V
7	3.13V
8	4.37V

IC202

1	PS
2	PS
3	2.55V
4	10.2V
5	5.14V
6	PS
7	PS
8	PS
9	PS
10	5.13V
11	0V
12	2.59V
13	PS
14	PS

IC205

1	PS
2	5.16V
3	5.15V
4	0V
5	2.59V
6	2.59V
7	PS
8	10.23V

IC206

1～4	PS
5	4.6V
6	PS
7	4.6V
8	PS
9	PS
10	4.6V
11	4.6V
12	PS
13	PS
14	0V
15～28	PS

IC410

1～3	0V
4	12.5V
5～10	0V
11	-12.4V
12～14	0V

IC302

1	4.42V
2～8	0V
9	-0.92V
10	-0.71V
11	0V
12	0V
13	-5.03V
14	-0.12V
15	-0.12V
16	0V
17	0.07V
18	0V
19	0.04V
20	PS
21	4.58V
22	2.3V
23	4.57V
24	4.56V

IC401

1～6	0V
7	-5.22V
8	0V
9	PS
10	0V
11	PS
12～15	0V
16	5.23V

IC402

1	PS
2	0V
3	0V
4	-12.47V
5	0V
6	0V
7	PS
8	12.45V

IC403

1～3	PS
4	12.46V
5～10	PS
11	-12.48V
12～14	PS

IC404

1～4	PS
5	-5.23V
6	-5.23V
7	-5.24V
8～11	PS
12	-5.23V
13	-5.23V
14	-5.25V

IC405

1～3	PS
4	-12.5V
5～7	PS
8	12.48V

IC406

1	PS
2	0V
3	0V
4	-12.57V
5	0V
6	0V
7	PS
8	12.54V

IC651

1～4	PS
5	0V
6	PS
7	PS
8	0V
9	0V
10	PS
11	0V
12～15	PS
16	5.22V

IC653

1	0V (5.14V)
2	0V (0.04V)
3	0V (0.04V)
4	0V (5.14V)
5	0.2V (6.53V)
6	0V (7.24V)
7	0V (7.23V)
8	0.2V (11.26V)

IC650

1	5.1V (0V)
2	0V (5.1V)
3	5.1V (0V)
4	0V
5	0V
6	0V
7	5V
8	PS
9	PS
10	5.1V (0V)
11～14	0V
15～17	PS
18	0V
19～21	PS
22～26	0V
27	5.1V
28	5.1V
29	4.8V
30	4.8V
31～33	5.1V
34	2V
35	5V
36	4.5V
37	0V
38	0V
39～41	PS
42	4.7V
43	PS
44	PS
45	0V
46～48	PS
49	0V
50	4.7V
51	0V
52	0V (3.9V)
53～56	0V
57	4.3V
58	5.1V
59～61	0V
62	5V
63	0V
64	0V

IC501

1～3	0V
4	-12.4V
5～7	0V
8	12.5V

IC652

1	5.1V
2	5.1V
3	0V
4	5.1V
5	4.2V
6～13	0V
14	5.1V

IC801

1	2.56V
2	2.56V
3	3.13V
4	0.22V
5	PS
6	3.78V
7	0V
8	11.97V
9	0V
10	0V
11	PS
12	13.48V
13	5.1V
14	5.1V
15	5.1V
16	0V

IC802

1	5.19V
2	2.91V
3	4.99V
4	0V
5	5.21V
6	2.61V
7	5.22V
8	5.23V

IC901

1～23	PS
24	5.35V
25～55	PS
56	5.35V
57	4.92V
58	5.35V
59	PS
60	PS
61	0V
62	PS
63	PS
64	PS
65	0V
66	PS

Measureing Condition

1. Power Supply Voltage
   DC 14V
2. Measuring Meter
   Synchroscope with Multimeter
3. Measuring Point Reference
   Between GND
4. Measuring Condition
   Signal Input

In CD, measurement was performed under repeat condition set for 2nd test signal (1KHz sinewave) band of YEDS-18.

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
uF = microfarads, pF = picofarads

Abbreviations

RES. = Resistor	CAP. = Capacitor
C.F. = Carbon Film	ELY. = Electrolytic
M.F. = Metal Film	CER. = Ceramic
M.O. = Metal Oxide Film	MYL. = Mylar
M.P. = Metal Plate	TAN. = Tantalum
TR. = Transistor	POLY. = Polystyrol
TRANS. = Transformer	PP. = Polypropylene
CP. = Chip	PLT. = Polyethylene

Symbol No.	Part No.	Description		
Main P. C. Board				
IC's				
IC205	51T72747F01	NJM072M		
IC206	51T82052F01	SM5806S		
IC207	51T72739F01	CX23035		
IC208	51T80623F01	CXK5816M		
IC209	51T72744F01	PCM55		
IC401	51T72745F01	μ PD4053BG		
IC402	51T82542F01	BA4560F		
IC403	51T74183F01	NJM2060M		
IC404	51T63892F01	μ PD4066BG		
IC405	51T82542F01	BA4560F		
IC406	51T82542F01	BA4560F		
IC408	51T69242F01	NJM5532M		
IC410	51T74183F01	NJM2060M		
IC501	51T82542F01	BA4560F		
IC650	51T74184F04	74184F04		
or	51T82516F01	82516F01		
IC651	51T73935F01	μ PD4028BG		
■ IC652	51T81972F01	BU4011BMF		
IC802	51T73028F01	NJM2903M		
or	51T73285F01	BA6993F		
Transistors				
Q401	48T62966F03	CP., DTA124		
Q403	48T63788F01	CP., 2SD1328		
Q404	48T63788F01	CP., 2SD1328		
Q405	48T63788F01	CP., 2SD1328		
Q406	48T63788F01	CP., 2SD1328		
Q501	48T63788F01	CP., 2SD1328		
Q502	48T63788F01	CP., 2SD1328		
Q503	48T63788F01	CP., 2SD1328		
Q504	48T63788F01	CP., 2SD1328		
Q647	48T80674F01	CP., FET, 2SK621		

Symbol No.	Part No.	Description		
Q648	48T62966F03	CP., DTA124		
Q649	48T62967F03	CP., DTC124K		
Q663	48T52437F01	CP., 2SB709A		
Q664	48T62967F03	CP., DTC124K		
Q665	48T70213F01	2SB911M		
Q666	48T62967F04	CP., DTC144K		
Q669	48T62967F04	CP., DTC144K		
Q670	48T70213F01	2SB911M		
Q671	48T62967F03	CP., DTC124K		
Q672	48T62967F04	CP., DTC144K		
Q673	48T62967F03	CP., DTC124K		
Q674	48T70213F01	2SB911M		
■ Q675	48T62967F03	CP., DTC124K		
■ Q676	48T62967F03	CP., DTC124K		
■ Q677	48T70213F01	2SB911M		
Q678	48T62967F03	CP., DTC124K		
Q679	48T62966F03	CP., DTA124		
Q680	48T62967F03	CP., DTC124K		
Q681	48T72751F01	2SD1227M		
Q683	48T62966F03	CP., DTA124		
Q684	48T62967F04	CP., DTC144K		
Q685	48T62966F03	CP., DTA124		
Q686	48T62967F03	CP., DTC124K		
Q687	48T62966F03	CP., DTA124		
Q688	48T62967F03	CP., DTC124K		
Q689	48T52438F01	CP., 2SD601A		
Q690	48T52437F01	CP., 2SB709A		
Q691	48T63417F01	CP., 2SC2412K		
Q692	48T63417F01	CP., 2SC2412K		
Q693	48T63419F01	CP., 2SA1036K		
Q694	48T62967F03	CP., DTC124K		
Q695	48T62966F03	CP., DTA124		
Q696	48T62967F03	CP., DTC124K		
Q697	48T62966F03	CP., DTA124		
Q698	48T62967F04	CP., DTC144K		
Q699	48T62967F04	CP., DTC144K		
Q803	48T72751F01	2SD1227M		
Q804	48T70213F01	2SB911M		
Q805	48T72751F01	2SD1227M		
Q806	48T70213F01	2SB911M		
Q807	48T62967F03	CP., DTC124K		
Q808	48T62967F03	CP., DTC124K		
Q809	48T62967F03	CP., DTC124K		
Q810	48T62966F03	CP., DTA124		
Q811	48T72751F01	2SD1227M		
Q812	48T74164F01	2SD1742		
Q813	48T52437F01	CP., 2SB709A		
Q814	48T62967F03	CP., DTC124K		
Q815	48T62967F03	CP., DTC124K		

Notes : ● : North American model only, ■ : European model only, Others : Common.

Symbol No.	Part No.	Description		
Diodes				
D642	48T52444F01	CP., MA151A		
D643	48T52444F01	CP., MA151A		
D644	48T52444F01	CP., MA151A		
D645	48T52444F01	CP., MA151A		
D646	48T52444F01	CP., MA151A		
D652	48T63462F01	CP., DAN202K		
D655	48T68828F01	1SS133		
or	48T44813F01	MA165TA		
D657	48T68828F01	1SS133		
or	48T44813F01	MA165TA		
D658	48T64134F01	CP., DA204K		
D659	48C40235G02	10E2		
D660	48C40235G02	10E2		
D661	48C40235G02	10E2		
D662	48C40235G02	10E2		
D663	48T63462F01	CP., DAN202K		
D811	48T68828F01	1SS133		
or	48T44813F01	MA165TA		
VD201	48T72759F01	Varactor, KV1260 [See Note]		
ZD801	48T68697F49	Zener, HZS13EB2		
ZD802	48T68697F49	Zener, HZS13EB2		
ZD803	48T68697F22	Zener, HZS5.6EB3		
ZD804	48T68697F22	Zener, HZS5.6EB3		
ZD805	48T62934F23	CP., Zener, RD5.6MB3		
ZD806	48T62934F19	CP., Zener, RD5.1MB2		
ZD807	48T68697F43	Zener, HZS11EB2		
ZD808	48T68697F22	Zener, HZS5.6EB3		
ZD809	48T62934F23	CP., Zener, RD5.6MB3		
ZD810	48T62934F23	CP., Zener, RD5.6MB3		
ZD811	48T68697F28	Zener, HZS6.8EB3		
or	48T68697F29	Zener, HZS7.5EB1		
ZD812	48T68699F33	Zener, MTZ10-D		
Inductors				
L201	24T72767F01	Coil, 7 μH		
■ L650	24T70709F01	Coil, 47 μH		
L801	24T70709F01	Coil, 47 μH		
Relay				
RL402	80T73804F02	FBR42NG012-P		
Switches				
S401	40T68057F01	Slide, SSJ-342		
S650	40T72772F01	TR-73B50F		

Symbol No.	Part No.	Description		
Crystals				
X201	48T72757F01	8.4672MHz		
X651	91T60592F02	Ceramic, Lock, CSA4.19MG		
Capacitors				
C233	08S65128F57	CP., 1000pF		
C234	08S65128F65	CP., 4700pF		
C235	23S61523F05	ELY., 22 μF/6.3V		
C236	08S53332F52	CP., 0.027 μF		
C237	08S53332F57	CP., 0.1 μF		
C238	08S65128F69	CP., 0.01 μF		
C239	23S61523F12	ELY., 10 μF/16V		
C240	23S61523F12	ELY., 10 μF/16V		
C241	08S65128F61	CP., 2200pF		
C242	23S61523F29	ELY., 1 μF/50V		
C243	08S65128F23	CP., 33pF		
C244	08S65128F39	CP., 150pF		
C245	08S65128F23	CP., 33pF		
C246	08S65128F61	CP., 2200pF		
C247	23S61523F06	ELY., 33 μF/6.3V		
C248	23S61523F14	ELY., 33 μF/16V		
C249	23S61523F14	ELY., 33 μF/16V		
C250	23S61523F12	ELY., 10 μF/16V		
C251	23S61523F12	ELY., 10 μF/16V		
C252	08S65128F19	CP., 22pF		
C253	08S65128F19	CP., 22pF		
C254	08S65128F69	CP., 0.01 μF		
C401	08T00151L09	P.P., 470pF		
C402	08T00151L09	P.P., 470pF		
C403	23S61523F29	ELY., 1 μF/50V		
C404	23S61523F29	ELY., 1 μF/50V		
C405	08T72783F38	CP., 1800pF		
C406	08T72783F38	CP., 1800pF		
C407	08T72783F38	CP., 1800pF		
C408	08T72783F38	CP., 1800pF		
C409	08T72783F38	CP., 1800pF		
C410	08T72783F38	CP., 1800pF		
C411	08T72783F38	CP., 1800pF		
C412	08T72783F38	CP., 1800pF		
C413	08T72783F38	CP., 1800pF		
C414	08T72783F38	CP., 1800pF		
C415	08T72783F38	CP., 1800pF		
C416	08T72783F38	CP., 1800pF		
C417	08T72783F38	CP., 1800pF		
C418	08T72783F38	CP., 1800pF		

Notes : ● : North American model only, ■ : European model only, Others : Common.

Note : When replacing varactor diode VD201, always use one with the same rank.

Symbol No.	Part No.	Description		
C419	08T72783F38	CP., 1800pF		
C420	08T72783F38	CP., 1800pF		
C421	23S61523F30	ELY., 2.2 µ F/50V		
C422	23S61523F30	ELY., 2.2 µ F/50V		
C423	23S61523F29	ELY., 1 µ F/50V		
C424	23S61523F29	ELY., 1 µ F/50V		
C425	08T52448F29	P.P., 4700pF		
C426	08T52448F29	P.P., 4700pF		
C427	23T71210F01	ELY., (B.P.) 10 µ F/16V		
C428	23T71210F01	ELY., (B.P.) 10 µ F/16V		
C429	23S61523F29	ELY., 1 µ F/50V		
C430	23S61523F29	ELY., 1 µ F/50V		
C435	08T52448F45	P.P., 0.022 µ F		
C436	08T52448F45	P.P., 0.022 µ F		
C437	08T52448F45	P.P., 0.022 µ F		
C438	08T52448F45	P.P., 0.022 µ F		
C439	08T82122F45	CP., 220pF		
C440	08T82122F45	CP., 220pF		
C441	08T44481F21	P.P., 2200pF		
C442	08T44481F21	P.P., 2200pF		
C443	08T82122F29	CP., 47pF		
C444	08T82122F29	CP., 47pF		
C445	23T43247F05	ELY., 1 µ F/50V		
C449	23T72784F17	ELY., (B.P.) 10 µ F/16V		
C450	23T72784F17	ELY., (B.P.) 10 µ F/16V		
C451	23T43247F09	ELY., 10 µ F/16V		
C452	23T43247F09	ELY., 10 µ F/16V		
C453	23T71210F01	ELY., (B.P.) 10 µ F/16V		
C454	23T71210F01	ELY., (B.P.) 10 µ F/16V		
C455	23T71210F01	ELY., (B.P.) 10 µ F/16V		
C456	23T71210F01	ELY., (B.P.) 10 µ F/16V		
C457	23S61523F30	ELY., 2.2 µ F/50V		
C458	23S61523F29	ELY., 1 µ F/50V		
C459	23S61523F29	ELY., 1 µ F/50V		
C477	23T43247F05	ELY., 1 µ F/50V		
C501	23S61523F12	ELY., 10 µ F/16V		
C502	23S61523F12	ELY., 10 µ F/16V		
C651	23S61523F12	ELY., 10 µ F/16V		
C652	23S61523F29	ELY., 1 µ F/50V		
C653	08S65128F19	CP., 22pF		
C654	08S65128F19	CP., 22pF		
C655	23T51232F02	ELY., 1000 µ F/16V		
C656	08S65128F69	CP., 0.01 µ F		
C657	23S61523F12	ELY., 10 µ F/16V		
C658	23S61523F12	ELY., 10 µ F/16V		

	Symbol No.	Part No.	Description		
	C659	23S61523F12	ELY., 10 µ F/16V		
	C660	23S61523F12	ELY., 10 µ F/16V		
	C662	23S61523F12	ELY., 10 µ F/16V		
■	C664	08S65128F61	CP., 2200pF		
	C665	23T82482F02	ELY., 100 µ F/16V		
	C666	08S65128F57	CP., 1000pF		
	C667	08S65128F57	CP., 1000pF		
●	C701	08S53332F57	CP., 0.1 µ F		
	C809	23S61524F16	ELY., 47 µ F/16V		
	C814	23S61524F16	ELY., 47 µ F/16V		
	C815	23S61524F16	ELY., 47 µ F/16V		
	C816	23S61524F16	ELY., 47 µ F/16V		
	C817	23S61524F16	ELY., 47 µ F/16V		
	C818	23S61523F14	ELY., 33 µ F/16V		
	C819	23S61523F14	ELY., 33 µ F/16V		
	C822	23S61523F10	ELY., 33 µ F/10V		
	C825	23S61523F10	ELY., 33 µ F/10V		
	C826	23S61523F17	ELY., 4.7 µ F/25V		
	C827	23S61523F28	ELY., 0.47 µ F/50V		
	C828	23T43247F18	ELY., 330 µ F/6.3V		
	C829	23S61523F29	ELY., 1 µ F/50V		
	C830	08S65128F69	CP., 0.01 µ F		
	C831	23S61524F16	ELY., 47 µ F/16V		
	C832	08S65128F69	CP., 0.01 µ F		
	C833	23S57422F09	ELY., 10 µ F/16V		
	C834	23T43247F18	ELY., 330 µ F/6.3V		

Resistors (All resistors are chip, 1/16W±5% unless otherwise noted.)

R263	06S64995F89	33K ohm		
R264	06S64996F10	220K ohm		
R265	06S64995F89	33K ohm		
R266	06S64995F77	10K ohm		
R267	06S64995F85	22K ohm		
R268	06S64995F83	18K ohm		
R270	06S64995F73	6.8K ohm		
R271	06S64995F89	33K ohm		
R272	06S64995F73	6.8K ohm		
R273	06S64996F26	1M ohm		
R274	06S64995F69	4.7K ohm		
R275	06S64995F89	33K ohm		
R276	06S64995F89	33K ohm		
R277	06S64995F63	2.7K ohm		
R278	06S64995F80	13K ohm		
R279	06S64995F76	9.1K ohm		
R280	06S64995F89	33K ohm		
R281	06S64995F53	1K ohm		
R282	06S64996F02	100K ohm		
R283	06S64996F02	100K ohm		

Notes : ● : North American model only, ■ : European model only. Others : Common.

Symbol No.	Part No.	Description		
R284	06S64995F69	4.7K ohm		
R285	06S64996F02	100K ohm		
R293	06S64995F77	10K ohm		
R401	06S64995F64	3K ohm		
R402	06S64995F64	3K ohm		
R403	06S64995F57	1.5K ohm		
R404	06S64995F57	1.5K ohm		
R405	06S64995F92	43K ohm		
R406	06S64995F92	43K ohm		
R407	06S64995F61	2.2K ohm		
R408	06S64995F61	2.2K ohm		
R409	06S64995F73	6.8K ohm		
R410	06S64995F73	6.8K ohm		
R411	06S64995F71	5.6K ohm		
R412	06S64995F71	5.6K ohm		
R413	06S64995F63	2.7K ohm		
R414	06S64995F63	2.7K ohm		
R415	06S64995F71	5.6K ohm		
R416	06S64995F71	5.6K ohm		
R417	06S64995F61	2.2K ohm		
R418	06S64995F61	2.2K ohm		
R419	06S64995F71	5.6K ohm		
R420	06S64995F71	5.6K ohm		
R421	06S64995F63	2.7K ohm		
R422	06S64995F63	2.7K ohm		
R423	06S64995F71	5.6K ohm		
R424	06S64995F71	5.6K ohm		
R425	06S64995F95	56K ohm		
R426	06S64995F95	56K ohm		
R427	06S64995F78	11K ohm		
R428	06S64995F78	11K ohm		
R429	06S64995F53	1K ohm		
R430	06S64995F53	1K ohm		
R431	06S64995F65	3.3K ohm		
R432	06S64995F65	3.3K ohm		
R433	06S64996F18	470K ohm		
R434	06S64996F18	470K ohm		
R435	06S53331F02	100K ohm 1/8W		
R436	06S53331F02	100K ohm 1/8W		
R437	06S64995F77	10K ohm		
R438	06S64995F69	4.7K ohm		
R439	06S64995F69	4.7K ohm		
R440	06S64995F69	4.7K ohm		
R441	06S64995F69	4.7K ohm		
R442	06S64995F29	100 ohm		
R443	06S64995F29	100 ohm		
R444	06S64995F74	7.5K ohm		
R445	06S64995F74	7.5K ohm		
R446	06S64995F85	22K ohm		
R447	06S64995F85	22K ohm		

Symbol No.	Part No.	Description		
R448	06S64995F77	10K ohm		
R449	06S64995F77	10K ohm		
R450	06S64995F52	910 ohm		
R451	06S64995F52	910 ohm		
R452	06S64995F74	7.5K ohm		
R453	06S64995F74	7.5K ohm		
R454	06S64995F85	22K ohm		
R455	06S64995F85	22K ohm		
R456	06S64995F87	27K ohm		
R457	06S64995F87	27K ohm		
R458	06S64995F87	27K ohm		
R459	06S64995F87	27K ohm		
R460	06S64995F29	100 ohm		
R461	06S64995F29	100 ohm		
R462	06S64995F61	2.2K ohm		
R463	06S64995F89	33K ohm		
R464	06S64995F89	33K ohm		
R467	06S64995F45	470 ohm		
R468	06S64995F45	470 ohm		
R469	06S64995F45	470 ohm		
R470	06S64995F45	470 ohm		
R471	06S64995F37	220 ohm		
R472	06S64995F37	220 ohm		
R473	06S64995F37	220 ohm		
R474	06S64995F37	220 ohm		
R475	06S64995F70	5.1K ohm		
R476	06S64995F70	5.1K ohm		
R477	06S64995F70	5.1K ohm		
R478	06S64995F70	5.1K ohm		
R479	06S64995F70	5.1K ohm		
R480	06S64995F70	5.1K ohm		
R481	06S64995F70	5.1K ohm		
R482	06S64995F70	5.1K ohm		
R483	06S64995F87	27K ohm		
R484	06S64995F87	27K ohm		
R485	06S64995F91	39K ohm		
R486	06S64995F91	39K ohm		
R487	06S64996F07	160K ohm		
R488	06S64996F07	160K ohm		
R489	06S64996F02	100K ohm		
R490	06S64995F77	10K ohm		
R503	06S64995F71	5.6K ohm		
R504	06S64995F71	5.6K ohm		
R505	06S64995F71	5.6K ohm		
R506	06S64995F71	5.6K ohm		
R507	06S64995F77	10K ohm		
R508	06S64995F77	10K ohm		
R509	06S64995F77	10K ohm		
R510	06S64995F77	10K ohm		
R511	06S64995F69	4.7K ohm		

Symbol No.	Part No.	Description		
R512	06S64995F69	4.7K ohm		
R513	06S64995F69	4.7K ohm		
R514	06S64995F69	4.7K ohm		
R640	06S64996F02	100K ohm		
R641	06S64996F02	100K ohm		
R642	06S64995F85	22K ohm		
R643	06S64995F85	22K ohm		
R644	06S64995F61	2.2K ohm		
R645	06S64995F77	10K ohm		
R646	06S64996F02	100K ohm		
R647	06S64996F02	100K ohm		
R648	06S64995F53	1K ohm		
R649	06S64995F77	10K ohm		
■ R654	06S64995F89	33K ohm		
■ R655	06S64996F26	1M ohm		
R656	06S64996F12	270K ohm		
R657	06S64995F05	10 ohm		
R658	06S64995F93	47K ohm		
R659	06S64995F93	47K ohm		
R660	06S64996F02	100K ohm		
R661	06S64996F02	100K ohm		
R662	06S64996F02	100K ohm		
R663	06S64996F02	100K ohm		
R664	06S64996F02	100K ohm		
R665	06T70072F37	220 ohm 1/4W		
R666	06S64995F77	10K ohm		
R667	06S64996F10	220K ohm		
R668	06S64995F61	2.2K ohm		
R669	06S64995F85	22K ohm		
R670	06S64995F53	1K ohm		
R671	06S64995F53	1K ohm		
R672	06S64995F85	22K ohm		
R673	06S64995F85	22K ohm		
R674	06T70072F80	2.7 ohm 1/4W		
R675	06T70072F80	2.7 ohm 1/4W		
R676	06S64995F77	10K ohm		
R677	06S64995F61	2.2K ohm		
R678	06S64995F77	10K ohm		
R681	06S64995F77	10K ohm		
R682	06S64995F77	10K ohm		
R683	06S64995F61	2.2K ohm		
R684	06S64995F77	10K ohm		
R685	06S64995F61	2.2K ohm		
R686	06S64995F77	10K ohm		
■ R687	06S64995F77	10K ohm		
■ R688	06S64995F77	10K ohm		
■ R689	06S64995F69	4.7K ohm		
R690	06S64995F77	10K ohm		
R691	06S64995F69	4.7K ohm		
R692	06S64995F77	10K ohm		

Symbol No.	Part No.	Description		
R693	06S64995F69	4.7K ohm		
R694	06S64996F02	100K ohm		
R695	06S64995F93	47K ohm		
R696	06S64995F77	10K ohm		
R697	06S64995F77	10K ohm		
R698	06S64995F77	10K ohm		
R699	06S64995F77	10K ohm		
■ R701	06S64996F02	100K ohm		
● R702	06S64996F02	100K ohm		
● R703	06S64995F93	47K ohm		
● R704	06S64995F77	10K ohm		
R816	06S64995F43	390 ohm		
R817	06S64995F43	390 ohm		
R818	06S64995F43	390 ohm		
R819	06S64995F43	390 ohm		
R820	06S64995F77	10K ohm		
R821	06S64995F95	56K ohm		
R822	06S64995F77	10K ohm		
R823	06S64995F77	10K ohm		
R824	06S64995F77	10K ohm		
R825	06S64995F93	47K ohm		
R826	06S64996F12	270K ohm		
R827	06S64995F61	2.2K ohm		
R828	06S64995F77	10K ohm		
R829	06S53330F01	4.7 ohm 1/8W		
R830	06S64995F69	4.7K ohm		
R831	06S64995F77	10K ohm		
R832	06T70072F43	390 ohm 1/4W		
R833	06S64995F67	3.9K ohm		
R834	06S64995F77	10K ohm		
R6050	06T74182F04	Block 10K ohm×7		
R6052	06T74182F01	Block 100K ohm×3		
VR403 VR404 VR405	18T81251F01	Volume, Rotary (Balance/Volume /Fader)		

Control P. C. Board

IC's

IC202	51T74190F01	NJM2902		
IC203	51T73719F01	NJM2904M		
IC204	51T72742F01	CX20108		

Notes : ● : North American model only, ■ : European model only, Others : Common.

Symbol No.	Part No.	Description		
Transistors				
Q209	48T80615F01	CP., 2SD1766		
Q210	48T80612F01	CP., 2SB1188		
Q211	48T80615F01	CP., 2SD1766		
Q212	48T80612F01	CP., 2SB1188		
Q213	48T80615F01	CP., 2SD1766		
Q214	48T80612F01	CP., 2SB1188		
Q215	48T80615F01	CP., 2SD1766		
Q216	48T80612F01	CP., 2SB1188		
Q217	48T80615F01	CP., 2SD1766		
Q218	48T80612F01	CP., 2SB1188		
Q219	48T80615F01	CP., 2SD1766		
Q220	48T80612F01	CP., 2SB1188		
Q221	48T62967F09	CP., DTC114TK		
Q222	48T62967F09	CP., DTC114TK		
Q224	48T62967F09	CP., DTC114TK		
Q225	48T62966F09	CP., DTA114T		
Diode				
ZD201	48T62934F19	Zener, CP., RD5.1MB2		
Capacitors				
C202	08S53332F17	CP., 33pF		
C203	08S53332F17	CP., 33pF		
C204	08S53332F17	CP., 33pF		
C206	23T74181F40	CP., TAN., 10 μ F/25V		
C207	08S53332F17	CP., 33pF		
C208	08S53332F17	CP., 33pF		
C209	08S53332F17	CP., 33pF		
C212	23T74180F07	CP., ELY., 33 μ F/25V		
C213	08S53332F39	CP., 2200pF		
C215	08S53332F41	CP., 3300pF		
C216	23T74180F16	CP., ELY., 2.2 μ F/50V		
C217	08S53332F57	CP., 0.1 μ F		
C218	08S53332F32	CP., 560pF		
C219	23T74180F22	CP., ELY., 47 μ F/4V		
C220	23T74180F07	CP., ELY., 33 μ F/25V		
C221	08S53332F47	CP., 0.01 μ F		
C222	08S53332F55	CP., 0.047 μ F		
C223	23T74181F06	CP., TAN., 0.47 μ F/16V		
C224	08S53332F15	CP., 22pF		
C225	08S53332F55	CP., 0.047 μ F		

Symbol No.	Part No.	Description		
C226	08S53332F15	CP., 22pF		
C227	08S53332F52	CP., 0.027 μ F		
C228	08S53332F57	CP., 0.1 μ F		
C229	23T74180F14	CP., ELY., 1 μ F/50V		
C230	08S53332F20	CP., 56pF		
C231	08S53332F46	CP., 8200pF		
C232	08S53332F40	CP., 2700pF		
C233	23T74181F06	CP., TAN., 0.47 μ F/16V		
C255	08S53332F47	CP., 0.01 μ F		
Resistors (All resistors are chip, 1/8W±5% unless otherwise noted.)				
R216	06S53330F77	10K ohm		
R217	06S53330F77	10K ohm		
R218	06S53330F77	10K ohm		
R219	06S53330F60	2K ohm		
R220	06S53330F53	1K ohm		
R221	06S53330F77	10K ohm		
R222	06S53330F77	10K ohm		
R223	06S53330F77	10K ohm		
R224	06S53330F53	1K ohm		
R225	06S53330F77	10K ohm		
R226	06S53330F77	10K ohm		
R227	06S53330F77	10K ohm		
R228	06S53330F77	10K ohm		
R229	06S53330F77	10K ohm		
R230	06S53331F02	100K ohm		
R231	06S53330F77	10K ohm		
R232	06S53330F93	47K ohm		
R233	06S53330F89	33K ohm		
R234	06S53331F02	100K ohm		
R236	06S53330F89	33K ohm		
R237	06S53330F77	10K ohm		
R238	06S53330F97	68K ohm		
R239	06S53330F69	4.7K ohm		
R240	06S53330F63	2.7K ohm		
R241	06S53330F93	47K ohm		
R242	06S53330F75	8.2K ohm		
R244	06S53330F61	2.2K ohm		
R245	06S53330F85	22K ohm		
R246	06S53331F02	100K ohm		
R247	06S53330F97	68K ohm		
R248	06S53330F97	68K ohm		
R249	06S53330F53	1K ohm		
R250	06S53330F89	33K ohm		
R251	06S53330F49	680 ohm		
R252	06S53330F53	1K ohm		

Symbol No.	Part No.	Description		
R253	06S53331F02	100K ohm		
R254	06S53330F85	22K ohm		
R255	06S53331F06	150K ohm		
R256	06S53331F02	100K ohm		
R257	06S53330F87	27K ohm		
R258	06S53330F53	1K ohm		
R259	06S53330F71	5.6K ohm		
R260	06S53330F89	33K ohm		
R261	06S53331F02	100K ohm		
R262	06S53331F02	100K ohm		
R263	06S53330F85	22K ohm		
R264	06S53331F26	1M ohm		
R290	06S53330F77	10K ohm		
R291	06S53330F77	10K ohm		
R292	06S53331F10	220K ohm		
R294	06S53330F89	33K ohm		
R295	06S53330F49	680 ohm		
VR201	18T74439F13	Variable 10K ohm		
VR202	18T56963F04	Variable 22K ohm		
RF Amp P. C. Board				
IC's				
IC201	51T74190F01	NJM2902		
IC301	51T67023F01	NJM4558D		
IC302	51T72750F01	CX20109		
Transistors				
Q201	48T72751F01	2SD1227M		
Q202	48T70213F01	2SB911M		
Q203	48T72751F01	2SD1227M		
Q204	48T70213F01	2SB911M		
Q205	48T72751F01	2SD1227M		
Q206	48T70213F01	2SB911M		
Q207	48T72751F01	2SD1227M		
Q208	48T70213F01	2SB911M		
Q301	48T70213F01	2SB911M		
Q302	48T62966F03	CP., DTA124		
Q303	48T62967F03	CP., DTC124K		
Q305	48T52437F01	CP., 2SB709A		
Q306	48T52438F01	CP., 2SD601A		
Diodes/LED				
D301	48T56286F01	ISS106		
D302	48T56286F01	ISS106		
D303	48T56286F01	ISS106		
LD301	48T69249F01	LED,SLP-935A-50A (RED)		

Symbol No.	Part No.	Description		
Capacitors				
C201	23T74437F32	TAN., 10 μ F/16V		
C301	08S53332F53	CP., 0.033 μ F		
C302	23S61523F25	ELY., 0.1 μ F/50V		
C303	08S53332F47	CP., 0.01 μ F		
C304	23T74437F32	TAN., 10 μ F/16V		
C305	23S61523F28	ELY., 0.47 μ F/50V		
C306	08S53332F47	CP., 0.01 μ F		
C307	08S53332F53	CP., 0.033 μ F		
C308	08S53332F20	CP., 56pF		
C309	08S53332F20	CP., 56pF		
C310	08S53332F15	CP., 22pF		
C311	08S53332F15	CP., 22pF		
C312	23T74437F14	TAN., 33 μ F/6.3V		
C313	23T74437F32	TAN., 10 μ F/16V		
C314	23S61523F08	ELY., 100 μ F/6.3V		
C315	23S61523F06	ELY., 33 μ F/6.3V		
C316	23S61523F06	ELY., 33 μ F/6.3V		
C317	23S41059P25	TAN., 10 μ F/6.3V		
Resistors (All resistors are chip, 1/8W±5% unless otherwise noted.)				
R201	06S53330F61	2.2K ohm		
R202	06S53330F61	2.2K ohm		
R203	06S53330F61	2.2K ohm		
R204	06S53330F61	2.2K ohm		
R205	06S53331F06	150K ohm		
R206	06S53331F06	150K ohm		
R207	06S53331F06	150K ohm		
R208	06S53331F06	150K ohm		
R209	06S53330F35	180 ohm		
R210	06S53331F02	100K ohm		
R211	06S53331F02	100K ohm		
R212	06S53331F02	100K ohm		
R213	06S53331F02	100K ohm		
R214	06S53330F93	47K ohm		
R215	06S53330F93	47K ohm		
R301	06S53331F26	1M ohm		
R302	06S53330F89	33K ohm		
R303	06S53331F18	470K ohm		
R304	06S53330F85	22K ohm		
R305	06S53330F77	10K ohm		
R306	06S53330F35	180 ohm		
R308	06S53330F85	22K ohm		
R309	06S53331F02	100K ohm		
R310	06S53330F77	10K ohm		
R311	06S53331F16	390K ohm		

Symbol No.	Part No.	Description		
R312	06S53331F12	270K ohm		
R313	06S53331F02	100K ohm		
R314	06S53331F12	270K ohm		
R315	06S53331F06	150K ohm		
R316	06S53330F53	1K ohm		
R317	06S53330F05	10 ohm		
R318	06S53330F53	1K ohm		
R319	06S53330F95	56K ohm		
R320	06S53331F30	2.2M ohm		
R321	06S53330F67	3.9K ohm		
R322	06S53330F77	10K ohm		
R323	06S53330F47	560 ohm		
R324	06S53330F61	2.2K ohm		
R325	06S53330F77	10K ohm		
R326	06S53330F65	3.3K ohm		
VR301	18T74439F21	Variable 220K ohm		
VR302	18T74439F19	Variable 100K ohm		

Load P. C. Board

IC

Symbol No.	Part No.	Description		
IC653	51T74030F01	MB3763PF		

Transistors

Symbol No.	Part No.	Description		
Q650	48T73023F01	CP., 2SD874A		
Q654	48T64221F02	CP., UN2112		
Q656	48T64221F02	CP., UN2112		
Q657	48T74164F11	2SD1742		
Q658	48T64221F02	CP., UN2112		
Q659	48T64222F02	CP., UN2212		
Q660	48T74709F01	2SD1749		

Diodes

Symbol No.	Part No.	Description		
D650	48T74692F01	MA291		
D651	48T74692F01	MA291		
ZD650	48T62934F37	Zener, CP., RD9.1MB2		

Capacitor

Symbol No.	Part No.	Description		
C650	23T74181F40	CP., T.T 10 μF/25V		

Resistors (All resistors are chip, 1/8W±5% unless otherwise noted.)

Symbol No.	Part No.	Description		
R648	06S53330F77	10K ohm		
R649	06S53330F53	1K ohm		
R650	06S53330F53	1K ohm		
R651	06S53330F77	10K ohm		
R653	06S53330F53	1K ohm		

D/D Unit P. C. Board

IC

Symbol No.	Part No.	Description		
IC801	51T73883F01	MB3759PF		

Transistors

Symbol No.	Part No.	Description		
Q801	48T72754F01	2SA1385L		
Q802	48T72754F01	2SA1385L		

Diodes

Symbol No.	Part No.	Description		
D801	48T72753F01	1SS130		
D802	48T72753F01	1SS130		
D803	48T74541F01	1SS83		
D804	48T74541F01	1SS83		
D805	48T74541F01	1SS83		
D806	48T74541F01	1SS83		
D807	48T74541F01	1SS83		
D808	48T74541F01	1SS83		
D809	48T74541F01	1SS83		
D810	48T74541F01	1SS83		

Coils

Symbol No.	Part No.	Description		
L802	24T71179F01	Inductor, 100 μH		
L803	24T71179F27	Inductor, 15mH		
L804	24T71179F18	Inductor, 2.7mH		
L805	24T71179F18	Inductor, 2.7mH		
L806	24T71179F15	Inductor, 1.5mH		
L807	24T71179F15	Inductor, 1.5mH		

Symbol No.	Part No.	Description		
Transformer				
T801	24T72768F01	256B		
Capacitors				
C801	23T43707U05	ELY., 220 μ F/16V		
C803	23S61523F30	ELY., 2.2 μ F/50V		
C804	23S61523F15	ELY., 47 μ F/16V		
C805	08S53332F35	CP., 1000pF		
C807	23C44780P23	ELY., 220 μ F/16V		
C808	23C44780P23	ELY., 220 μ F/16V		
C810	23C44780P22	ELY., 100 μ F/16V		
C811	23C44780P22	ELY., 100 μ F/16V		
C812	23T68328F28	ELY., 100 μ F/25V		
C813	23S41198U35	ELY., 100 μ F/25V		
Resistors (All resistors are chip, 1/8W±5% unless otherwise noted.)				
R801	06S53330F29	100 ohm		
R802	06T70072F49	680 ohm 1/4W		
R803	06T70072F49	680 ohm 1/4W		
R804	06S53331F19	510K ohm		
R805	06S53330F53	1K ohm		
R806	06T70072F49	680 ohm 1/4W		
R807	06T70072F49	680 ohm 1/4W		
R808	06S53330F83	18K ohm		
R809	06S53330F85	22K ohm		
R810	06S53330F77	10K ohm		
R811	06S53331F26	1M ohm		
R812	06S53330F77	10K ohm		
R813	06S53330F55	1.2K ohm		
R814	06S53330F53	1K ohm		
R815	06S53330F29	100 ohm		
VR801	18T74439F05	Variable 470 ohm		
Front P. C. Board				
IC				
IC901	51T83905F01	LC7582		

Symbol No.	Part No.	Description		
Diode				
D901	48T63462F01	CP., DAN202K		
LEDs				
LD901	48T51833F01	PY4524K (YEL)		
LD902	48T51833F03	BG4524K (GRN)		
LD903	48T51833F03	BG4524K (GRN)		
LD904	48T51833F03	BG4524K (GRN)		
LD905	48T51833F03	BG4524K (GRN)		
LD906	48T51833F03	BG4524K (GRN)		
Switches				
■ S901	40T72031F01	Push SPPH23 (LIGHT)		
S902	40T70366F01	Tact KHL-10906 (CLEAR)		
S903	40T70366F01	Tact KHL-10906 (SCAN)		
S904	40T70366F01	Tact KHL-10906 (PRESET)		
S905	40T70366F01	Tact KHL-10906 (PLAY/PAU)		
S906	40T70366F01	Tact KHL-10906 (ADI)		
S907	40T70366F01	Tact KHL-10906 (UP)		
S908	40T70366F01	Tact KHL-10906 (EJECT)		
S909	40T70366F01	Tact KHL-10906 (FWD)		
S910	40T70366F01	Tact KHL-10906 (DOWN)		
S911	40T70366F01	Tact KHL-10906 (BWD)		
S912	40T70366F01	Tact KHL-10906 (PSP)		
S913	40T70366F01	Tact KHL-10906 (M)		
S914	40T70366F01	Tact KHL-10906 (REPEAT)		
S918	40T70366F01	Tact KHL-10906 (RESET)		

Notes : ● : North American model only, ■ : European model only, Others : Common.

Symbol No.	Part No.	Description		
Lamps				
PL901	65T67467F03	Pilot, 6V−32mA		
■ PL902	65T67467F04	Pilot, 6V−32mA		
PL903	65T67467F03	Pilot, 6V−32mA		
PL904	65T67467F03	Pilot, 6V−32mA		
■ PL905	65T67467F04	Pilot, 6V−32mA		
■ PL906	65T67467F04	Pilot, 6V−32mA		
PL907	65T81729F01	Pilot, 6.3V−0.1A		
PL908	65T81729F01	Pilot, 6.3V−0.1A		
PL909	65T67467F03	Pilot, 6V−32mA		
PL910	65T67467F03	Pilot, 6V−32mA		
■ PL911	65T67467F04	Pilot, 6V−32mA		
PL912	65T67467F03	Pilot, 6V−32mA		
Capacitors				
C901	23T43247F09	ELY., 10 μ F/16V		
C902	23T43247F09	ELY., 10 μ F/16V		
C903	08S65128F55	CP., 680pF		
Resistors (All resistors are chip, 1/8W±5% unless otherwise noted.)				
R901	06T70072F39	270 ohm 1/4W		
R902	06T70072F39	270 ohm 1/4W		
R903	06T70072F39	270 ohm 1/4W		
R904	06T70072F29	100 ohm 1/4W		
R905	06T70072F29	100 ohm 1/4W		
R906	06T70072F05	10 ohm 1/4W		
R907	06T70072F29	100 ohm 1/4W		
R908	06S53330F53	1K ohm		
R909	06S53330F53	1K ohm		
R910	06S53330F55	1.2K ohm		
R911	06S64995F89	33K ohm 1/16W		
R912	06S64995F93	47K ohm 1/16W		
VR401	18T58188F03	Slide Volume. 100K ohm−B (Treble)		
VR402	18T58188F03	Slide Volume. 100K ohm−B (Bass)		

Symbol No.	Part No.	Description		
Photo B P. C. Board				
Transistor				
PT660	48T73605F01	Photo PH102		
LED				
LD650	48T69249F01	SLP−935A−50A (RED)		
Miscellaneous				
■ BZ650	50T69037F01	Buzzer PKM17EP		
C820	08T74199F02	CAP., Through (8P)		
E401	01T72764F01	Input DIN Connector (8P)		
■ E402	01T74179F01	Output DIN Conector		
● E402	01T90605F01	Output DIN Connector		
■ E801	01T90330F01	Ignition Cable		
● E801	01T90330F02	Ignition Cable		
HD1	88T73604F01	Head Unit−K		
LCD901	65T81549F02	LCD,5902		
M650	01V74100F23	Assy., Motor		
PT661	48T73605F01	TR., Photo PH102		
S651	40T71647F01	Switch, Micro D2A (DOOR)		
S652	40T71647F02	Switch, Micro D2A (END)		
SD650	01T73602F01	Assy., Solenoide		

Notes : ● : North American model only, ■ : European model only, Others : Common.

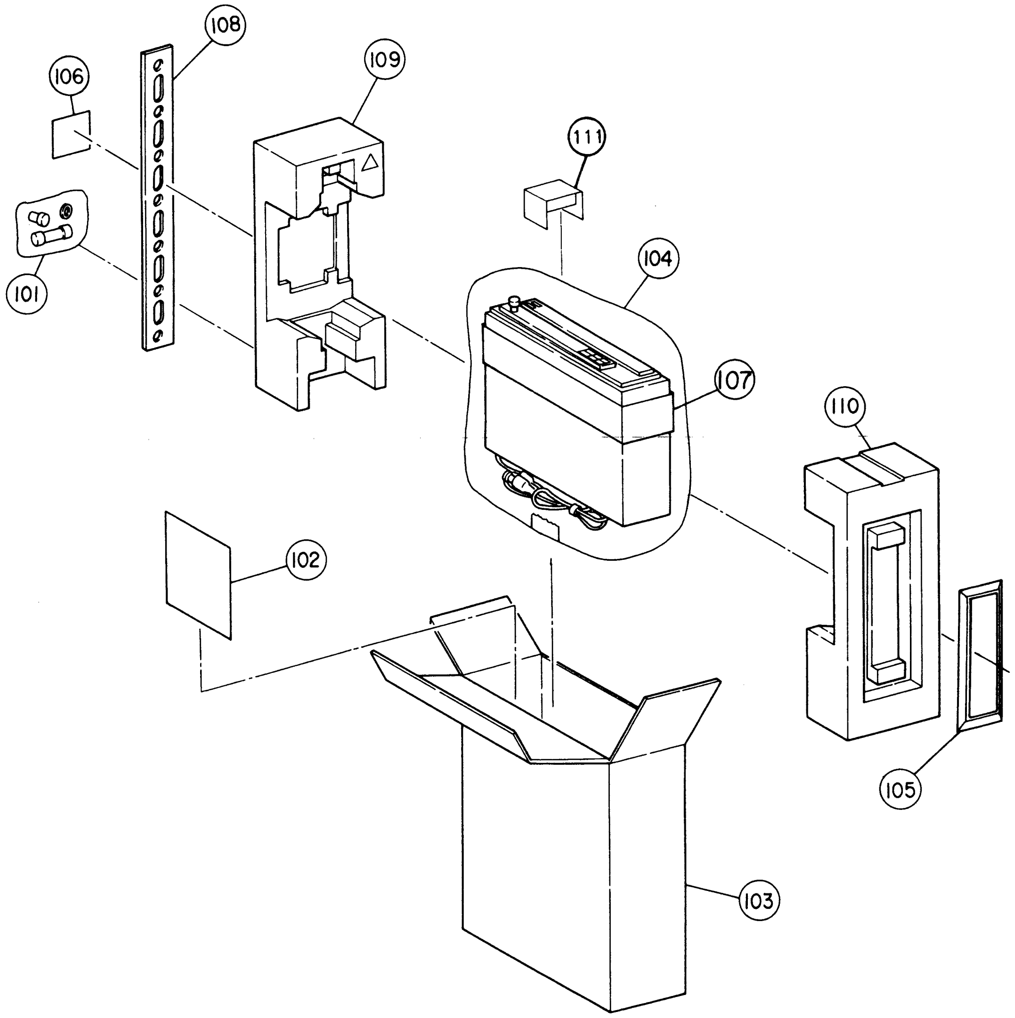
Packing Assembly Parts List

Symbol No.	Part No.	Description		
101	01V81500F93	Assy., Kit Installation		
■ 101－1	03B44963F01	Bolt, Hex W/Washer (M4×8)		
● 101－2	03S63857F05	Screw, Tapping (M5×15)		
■ 101－3	03B44963F02	Bolt, Hex W/Washer (M5×20)		
■ 101－4	02B47353F01	Nut, Hex (M5)		
■ 101－5	03S52360F37	Screw, Countersink (M4×8)		
■ 101－6	65A40348G04	Fuse, 3A (For ACC Power Lead)		
■ 101－7	46A42363F01	Bolt, Stud		

Symbol No.	Part No.	Description		
■ 102	68P83132F46	Owners, Manual		
● 102	01V91500F52	Assy., Pamphlet		
■ 103	56S80201F10	Carton, Packing (Individual)		
● 103	56S90024F17	Carton, Packing (Individual)		
104	56B40990T18	Sack, Polyethylene		
105	33B81462F01	Face, Plate		
106	01V81300F84	Assy., Kit Bracket		
■ 106－1	07A80820F01	Bracket, Hand		
107	15C80814F01	Case, Inner		
108	07B64552F01	Bracket, Strap Receiver		
109	56D82674F01	Tray, Packing (L)		
110	56D82674F02	Tray, Packing (R)		
111	56B81396F02	Pad, Packing		

Notes : ● : North American model only, ■ : European model only, Others : Common.

Packing Method View



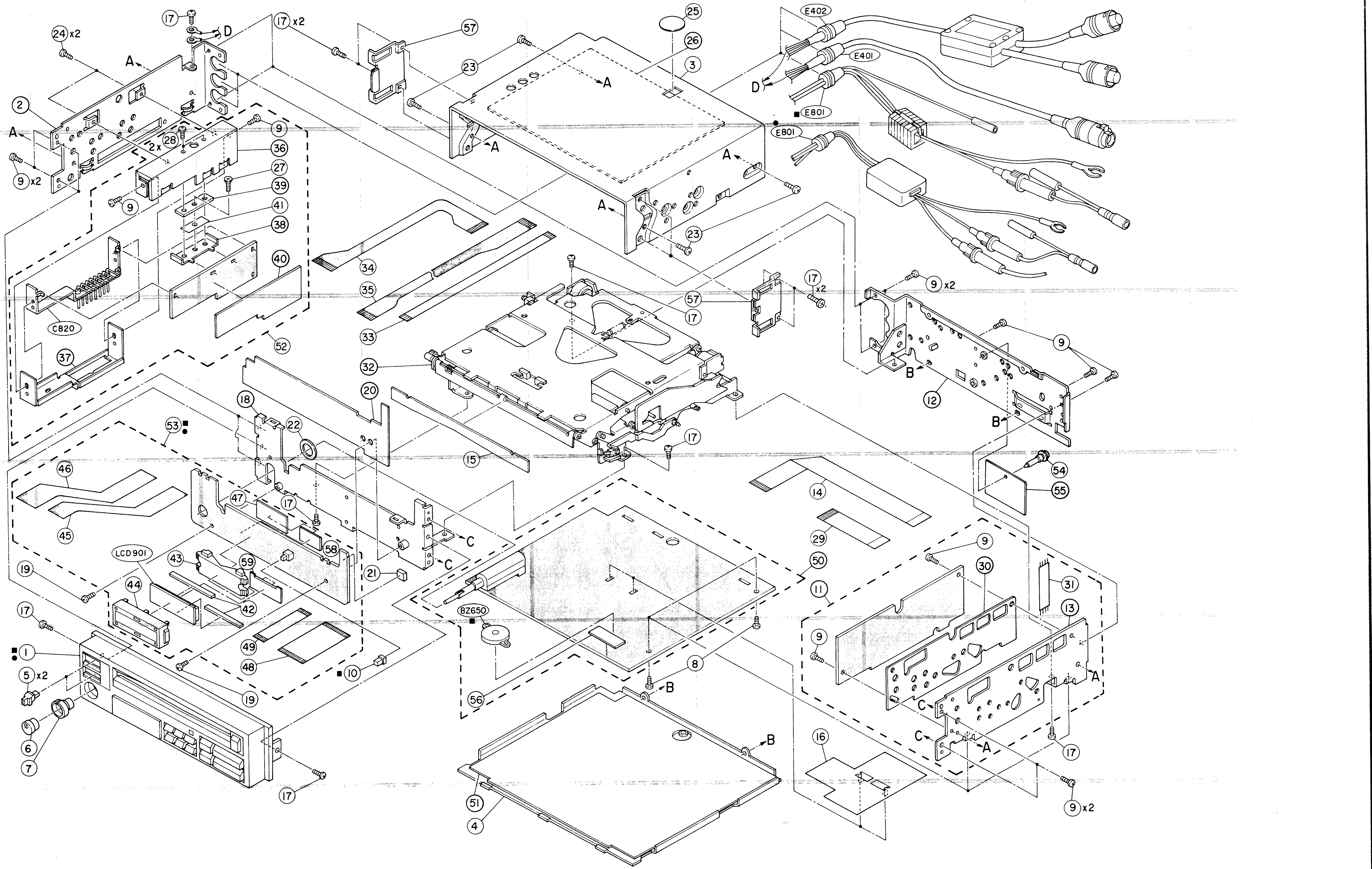
Cabinet Assembly Parts List

Symbol No.		Index	Part No.	Description		
■	1	5-A	13C81296F01	Assy., Nosepiece		
●	1	5-A	13C81296F02	Assy., Nosepiece		
	3	1-E	15C73492F02	Cover, Top		
	5	5-A	36A72513F02	Knob, Slide Volume		
	6	5-A	36A81306F01	Knob, Control (Front)		
	7	5-A	36A74203F01	Knob, Control (Rear)		
	8	5-E	03S44205G48	Screw, Pan (M2.6×5)		
	9		03S44205G30	Screw, Pan (M2.6×4)		
■	10	5-C	36A73708F01	Knob, Lighting		
	14	4-F	30C74188F02	Parallel Wire (10P)		
	15	4-D	15A74616F01	Cover, Dust		
	16	5-F	15A81953F01	Cover, Shield (Main)		
	17		03S44205G07	Screw, Pan (M2.6×5)		
	19		03S40011G90	Screw, Bind (M2.6×4)		
	21	4-D	75S72374F56	Cushion, Rubber		
	22	3-C	04A43020G05	Washer, Flate (M9.2)		
	23		03S44205G38	Screw, Bind (M3×6)		
	24	1-B	03S71677F06	Screw, W/Washer (M2.6×6)		
■	25	1-E	54S60912F11	Lable, Round-STD		
●	25	1-E	54S60912F13	Lable, Round-STD		
	27	2-C	03S72235F12	Screw, Countersink (M2.6×8)		
	28	2-B	03S44205G33	Screw, Pan (M2.6×8)		
	29	4-F	30C74188F01	Parallel Wire (10P)		
	31	4-H	30T73687F04	Parallel Wire (4P)		
	33	3-D	30C74188F03	Parallel Wire (4P)		
	34	2-D	84T81312F01	FPC RF P. C. Board		
	35	2-D	84T81313F01	Actuate FPC P. C. Board		
	41	2-C	75A81740F01	TR., Rubber		
	42	4-C	75T65533F03	Cushion, Rubber		
	43	4-B	61T81554F01	Lens, LCD		
	44	4-B	15T81555F01	Cover, LCD		
	45	4-B	84T741185F01	FPC Buss P. C. Board		
	46	4-B	84T74186F01	FPC Treble P. C. Board		
	47	4-C	14S81481F18	Insulator Cover		
	48	5-C	30C74188F08	Parallel Wire (14P)		
	49	5-C	30T73687F03	Parallel Wire (4P)		
	52	3-C	01V81600F87	Assy., D/D Unit P. C. Board		
■	53	3-B	01V84300F96	Assy., Front P. C. Board		
●	53	3-B	01V91400F72	Assy., Front P. C. Board		
	54	4-H	46A81395F01	Stud Pin		
	56	5-D	14S81481F02	Insulator		
	57		07A80815F01	Assy., Stopper Bracket		
	58	4-C	14S53017F90	Insulator, Cover		
	59	4-C	26A84712F01	Reflector, Film		

Notes : ● : North American model only, ■ : European model only, Others : Common.

Note : The parts without part numbers are not supplied.

Exploded View (Cabinet)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17
D
17 x2
57
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26
3
23
A
E402
E401
E801
E801
D
2
A
2x 28
9
36
9 x2
27
39
41
38
9
40
C820
52
37
34
35
33
32
17
57
17 x2
9 x2
9
12
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18
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45
C
C
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43
LCD901
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BZ650
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11
31
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16
A
C
C
A
17
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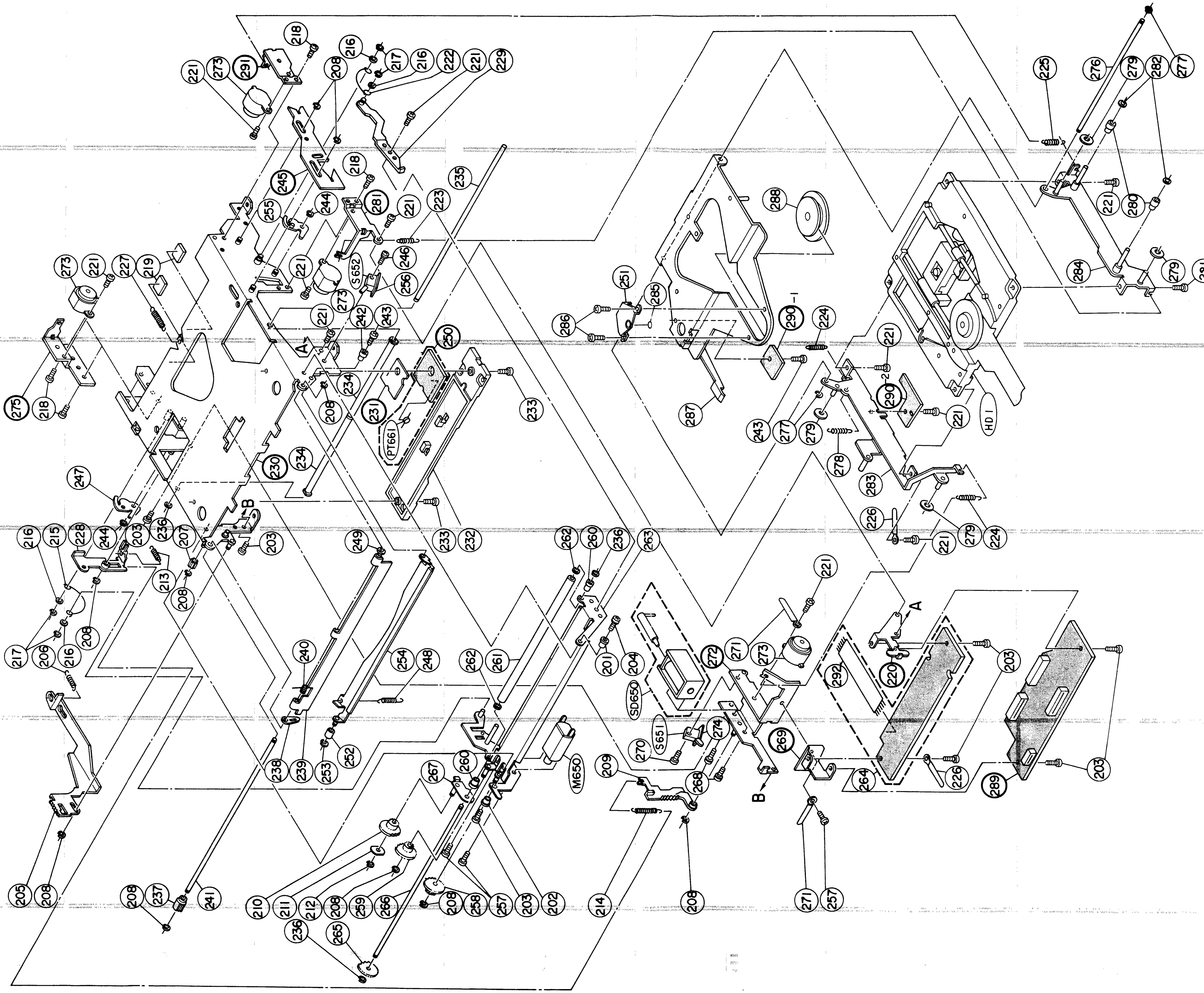
Exploded View (CD Mechanism)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227
219
221
273
S652
246
256
221
242
243
A
250
233
275
218
234
208
231
PT661
230
234
247
B
233
232
216
215
228
244
203
236
207
203
213
208
208
249
262
260
236
263
217
206
216
208
240
254
248
262
261
201
204
SD650
272
271
273
221
292
220
A
203
238
239
253
252
267
260
M650
209
270
S651
274
268
269
B
264
226
289
203
205
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208
237
241
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211
212
208
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266
208
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203
202
214
208
271
257
236
265
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251
285
286
290-1
224
287
221
290-2
243
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HD1
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224
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279
221

CD Mechanism Assembly Parts List

Symbol No.	Index	Part No.	Description		
201	4-D	43A73633F01	Spacer, Arm Roller		
202	5-D	43A73634F01	Spacer, Arm Disc Guide		
203		03D40014G07	Screw, W/Washer (M2×4)		
204	4-D	03D40014G61	Screw, W/Washer (M2×5)		
205	5-A	45C73561F01	Lever, Door Rack		
206	4-A	41B73641F03	Spring, Pull		
207	4-B	44A73591F01	Gear, Door (A)		
208		04A41345P01	Washer, Lock (M1.2)		
209	5-D	44B73593F01	Rack, Down		
210	5-C	44A73590F01	Gear, Down		
211	5-C	41A73571F01	Spring, Clutch		
212	5-C	04C42091G12	Ring, " E " (M1.2)		
213	4-B	41B73641F04	Spring, Pull		
214	5-D	41B73641F05	Spring, Pull		
215	4-A	41A73639F01	Spring, Roller Down		
216		04S40075G07	Washer, Polyslider (M2.1)		
217		04A41345P02	Washer, Lock (M1.7)		
218		03S44205G68	Screw, Pan (M2×4)		
219	2-B	75S72374F50	Cushion, Rubber		
221	2-G	03S68259F22	Screw, Pan (M2×3)		
222	1-C	41A73639F01	Spring, Roller Down		
223	2-C	41B73641F07	Spring, Pull		
224		41B73641F08	Spring, Pull		
225	1-G	41B73641F09	Spring, Pull		
226		29C41045P09	Lug, Wrag Around		
227	2-B	41B73641F01	Spring, Pull		
228	4-B	01A73891F01	Assy., Gear Down Rivet		
229	1-D	01A73892F01	Assy., Arm Roller Rivet		
232	4-D	15C73585F01	Cover, Disc Guide		
233		03S44205G14	Screw, Pan (M2×5)		
234	3-C	49A73582F01	Roller		
235	2-D	47A73606F01	Shaft, Roller		
236		04A41345P06	Washer, Lock (M2.1)		
237	5-B	44A73592F01	Gear, Door (B)		
238	5-C	45A73581F01	Arm, Cover Door		
239	5-C	15B73562F01	Cover, Door		
240	4-C	41A73640F01	Spring, Door		
241	5-B	47A73608F01	Shaft, Door		
242	2-C	43A73632F01	Spacer, Door Stopper		
243		03S68259F27	Screw, Pan (M1.7×3.5)		
244		04A41345P19	Washer, Lock (M1.7)		
246	2-C	03D40014G02	Screw, W/Washer (M2×6)		
247	3-B	45A73578F01	Lever, Lock (L)		
248	4-C	41B73641F06	Spring, Pull		
249	4-C	04S40075G03	Washer, Polyslider (M1.7)		
251	2-D	07A73573F01	Support, Clamp		
252	5-C	43A73635F01	Roller, Door Stopper		
253	5-C	04A41345P11	Washer, Lock (M1.2)		
254	4-C	01A73895F01	Assy., Rivet Door Stopper		
255	2-C	01A73894F01	Assy., Rivet Lever Lock		
256	2-C	84A73595F01	Panel Switch		
257		03S68259F12	Screw, Pan (M2×2.5)		
258	5-D	44A73587F01	Gear, Loading (A)		
259	5-C	44A73588F01	Gear, Loading (B)		
260		43A73636F01	Roller, Bushing		
261	4-D	49A73583F01	Roller, Loading		
262		04S40075G13	Washer, Polyslider (M3.1)		
263	4-E	01A73896F01	Assy., Arm Guide Rivet		
264	5-F	01V74200F30	Assy., Load P. C. Board		
265	6-C	44A73589F01	Gear, Roller		
266	5-C	47A73607F01	Shaft, Roller (G)		
267	5-C	01A73897F01	Assy., Arm Gear Down		
268	5-E	03C42723U06	Screw, Cup (M2.6×5)		
270	5-E	03S43997P33	Screw, Bind (M2×6)		
271		29C41045P08	Lug, Wrap Around		
273		01B73601F01	Assy., Damper		
274	5-E	84A73596F01	Panel Switch		
276	1-G	47A73609F01	Shaft, Clamp		
277		04C42091G06	Ring," E " (M1.5)		
278	3-F	41B73641F02	Spring, Pull		

Note : The parts without part numbers are not supplied.

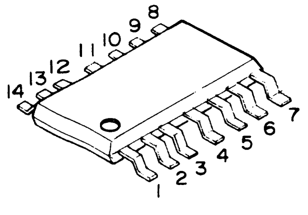
Symbol No.	Index	Part No.	Description		
279		15A73594F01	Cover, Damper		
280	2-G	43A81490F01	Spacer, Mechanism Lock		
282	1-G	04A41345P08	Washer, Lock (M1.7)		
283	3-F	01A73899F01	Assy., Bracket Head (L)		
284	2-G	01A73901F01	Assy., Bracket Head (R)		
285	2-E	43A41006F01	Spacer, Polyslider		
286	2-D	03S68259F11	Screw, Pan (M1.7×2)		
287	3-E	01A73902F01	Assy., Rivet Arm Clamp		
288	2-E	01V74400F79	Assy., Disc Clamp		
292	4-F	30C74188F04	Parallel Wire (12P)		

Symbol No.	Index	Part No.	Description		

Note : The parts without part numbers are not supplied.

Semi-Conductor Lead Identifications

NJM2902 : IC201, 202
NJM2060 : IC403, 410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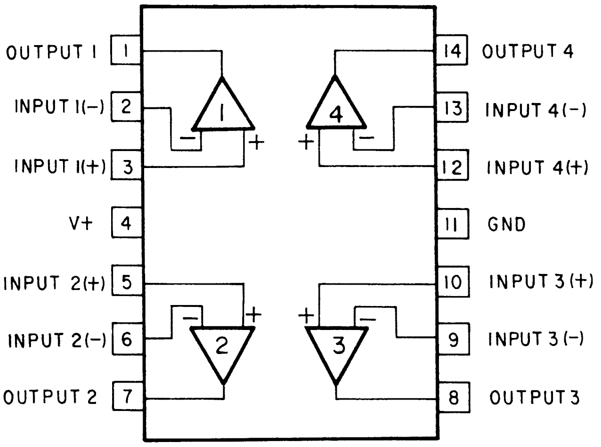
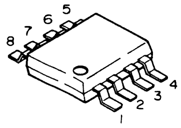
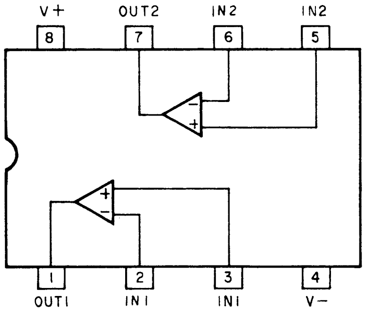
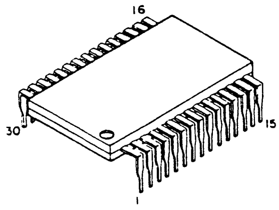

OUTPUT 1
1
INPUT 1(−)
2
INPUT 1(+)
3
V+
4
INPUT 2(+)
5
INPUT 2(−)
6
OUTPUT 2
7
1
4
2
3
14
OUTPUT 4
13
INPUT 4(−)
12
INPUT 4(+)
11
GND
10
INPUT 3(+)
9
INPUT 3(−)
8
OUTPUT 3
+
−

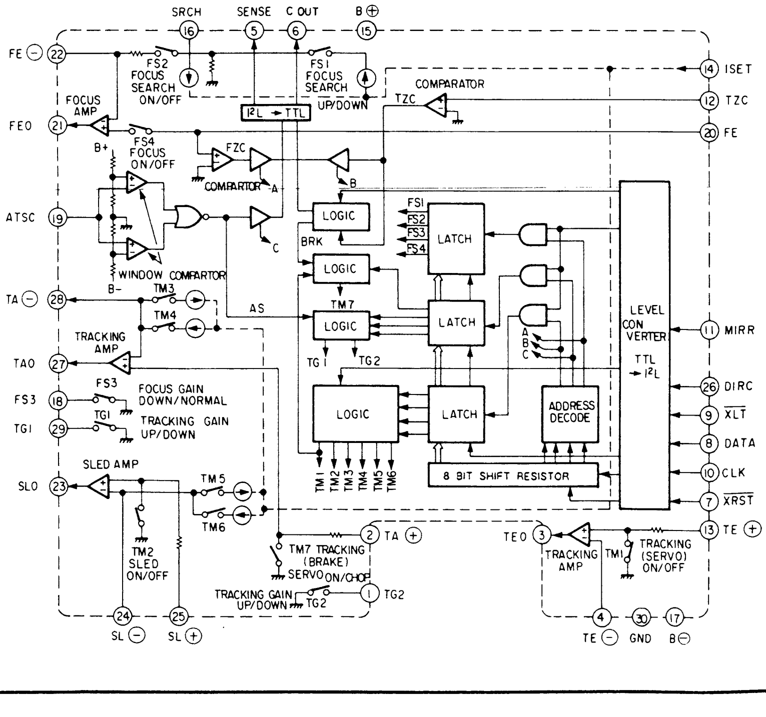
NJM2904M : IC203
NJM072M : IC205



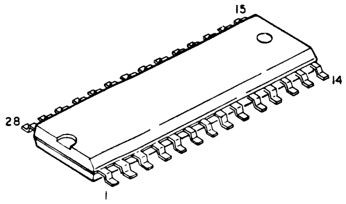

V+
OUT2
IN2
IN2
8
7
6
5
1
2
3
4
OUT1
IN1
IN1
V−
+
−

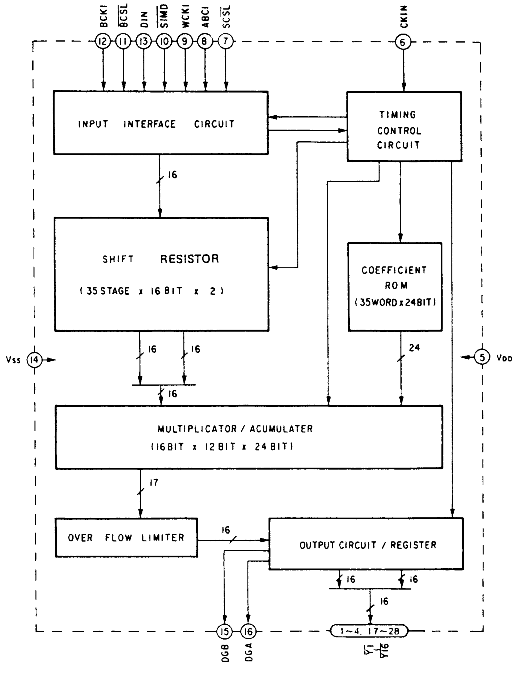
CX20108 : IC204




SRCH
16
SENSE
5
C OUT
6
B⊕
15
FE⊖
22
FS2
FOCUS SEARCH ON/OFF
FS1
FOCUS SEARCH UP/DOWN
I²L → TTL
14
ISET
COMPARATOR
TZC
12
TZC
FOCUS AMP
FEO
21
FS4
FOCUS ON/OFF
B+
FZC
COMPARTOR
A
B
20
FE
ATSC
19
WINDOW COMPARTOR
B−
C
LOGIC
BRK
LOGIC
FS1
FS2
FS3
FS4
LATCH
TA⊖
28
TM3
TM4
AS
TM7
LOGIC
LATCH
A
B
C
LEVEL CONVERTER
TTL → I²L
11
MIRR
TRACKING AMP
TAO
27
TG1
TG2
FS3
18
FS3
FOCUS GAIN DOWN/NORMAL
TG1
29
TG1
TRACKING GAIN UP/DOWN
LOGIC
LATCH
ADDRESS DECODE
26
DIRC
9
$\overline{XLT}$
8
DATA
SLED AMP
SLO
23
TM5
TM6
TM1
TM2
TM3
TM4
TM5
TM6
8 BIT SHIFT RESISTOR
10
CLK
7
$\overline{XRST}$
2
TA⊕
TEO
3
13
TE⊕
TM2
SLED ON/OFF
TM7 TRACKING (BRAKE)
SERVO ON/CHOP
TRACKING AMP
TM1
TRACKING (SERVO) ON/OFF
TRACKING GAIN UP/DOWN
TG2
1
TG2
24
25
SL⊖
SL⊕
4
30
17
TE⊖
GND
B⊖

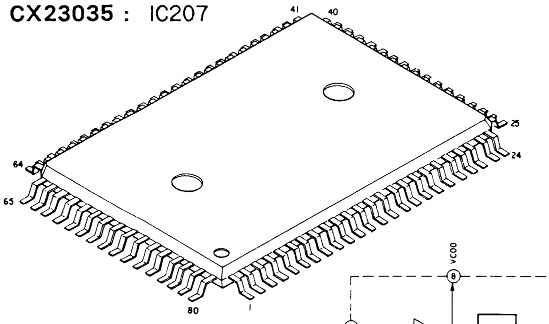
SM5806S : IC206





BCKI 12
BCSL 11
DIN 13
SIMD 10
WCKI 9
ABCI 8
SCSL 7
CKIN 6
INPUT INTERFACE CIRCUIT
TIMING CONTROL CIRCUIT
16
SHIFT RESISTOR
(35 STAGE x 16 BIT x 2)
COEFFICIENT ROM
(35WORD x 24BIT)
Vss 14
5 VDD
16
16
16
24
MULTIPLICATOR / ACUMULATER
(16BIT x 12BIT x 24BIT)
17
OVER FLOW LIMITER
16
OUTPUT CIRCUIT / REGISTER
16
16
16
15 DGB
16 DGA
1~4, 17~28
Y1 ~ Y16

CX23035 : IC207



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25
24
64
65
80
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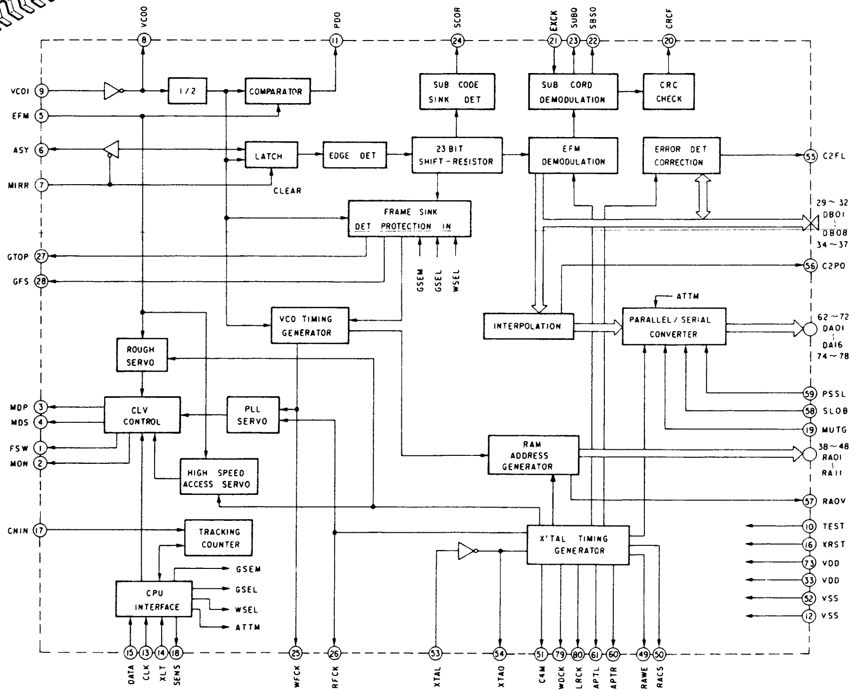
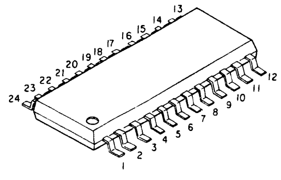


VCOO 8
PDO 11
SCOR 24
EXCK 21
SUBQ 23
SBSO 22
CRCF 20
VCOI 9
EFM 5
ASY 6
MIRR 7
GTOP 27
GFS 28
MDP 3
MDS 4
FSW 1
MON 2
CNIN 17
1/2
COMPARATOR
SUB CODE SINK DET
SUB CORD DEMODULATION
CRC CHECK
LATCH
CLEAR
EDGE DET
23 BIT SHIFT-RESISTOR
EFM DEMODULATION
ERROR DET CORRECTION
FRAME SINK DET PROTECTION IN
GSEM
GSEL
WSEL
55 C2FL
29~32 DB01 ~ DB08 34~37
56 C2PO
ATTM
VCO TIMING GENERATOR
INTERPOLATION
PARALLEL / SERIAL CONVERTER
62~72 DA01 ~ DA16 74~78
ROUGH SERVO
CLV CONTROL
PLL SERVO
HIGH SPEED ACCESS SERVO
59 PSSL
58 SLOB
19 MUTG
RAM ADDRESS GENERATOR
38~48 RA01 ~ RA11
57 RAOV
TRACKING COUNTER
X'TAL TIMING GENERATOR
10 TEST
16 XRST
73 VDD
33 VDD
52 VSS
12 VSS
CPU INTERFACE
GSEM
GSEL
WSEL
ATTM
15 DATA
13 CLK
14 XLT
18 SENS
25 WFCK
26 RFCK
53 XTAL
54 XTAO
51 C4M
79 WDCK
80 LRCK
61 APTL
60 APTR
49 RAWE
50 RACS

CXK5816M : IC208



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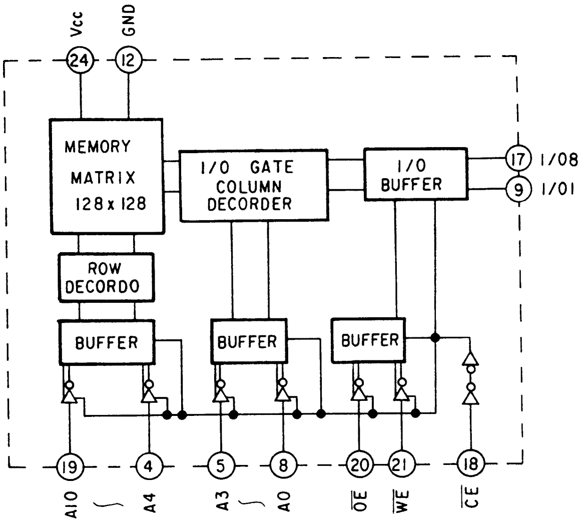
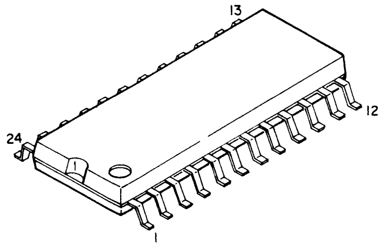
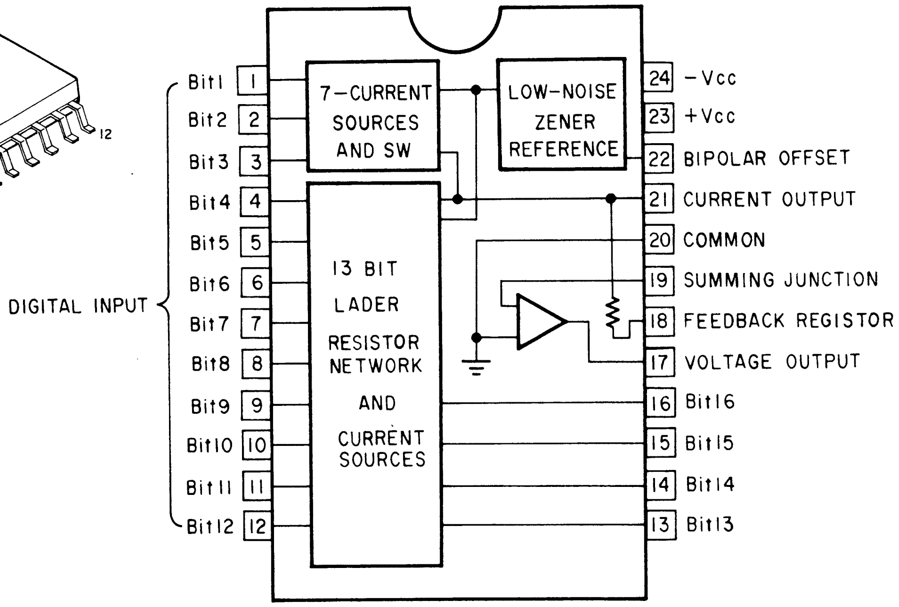


Vcc
GND
24
12
MEMORY MATRIX 128 x 128
I/O GATE COLUMN DECORDER
I/O BUFFER
17
I/08
9
I/01
ROW DECORDO
BUFFER
BUFFER
BUFFER
19
4
5
8
20
21
18
A10
A4
A3
A0
OE
WE
CE

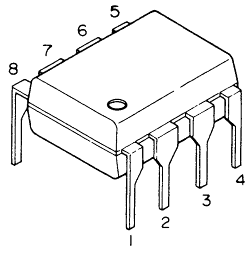
PCM55 : IC209

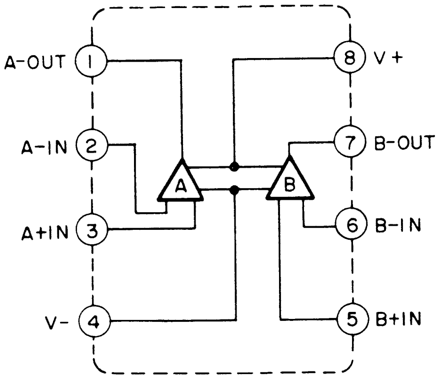




DIGITAL INPUT
Bit1
1
Bit2
2
Bit3
3
Bit4
4
Bit5
5
Bit6
6
Bit7
7
Bit8
8
Bit9
9
Bit10
10
Bit11
11
Bit12
12
7-CURRENT SOURCES AND SW
LOW-NOISE ZENER REFERENCE
13 BIT LADER RESISTOR NETWORK AND CURRENT SOURCES
24
-Vcc
23
+Vcc
22
BIPOLAR OFFSET
21
CURRENT OUTPUT
20
COMMON
19
SUMMING JUNCTION
18
FEEDBACK REGISTOR
17
VOLTAGE OUTPUT
16
Bit16
15
Bit15
14
Bit14
13
Bit13

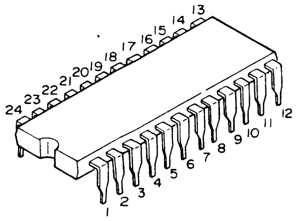
NJM4558D : IC301

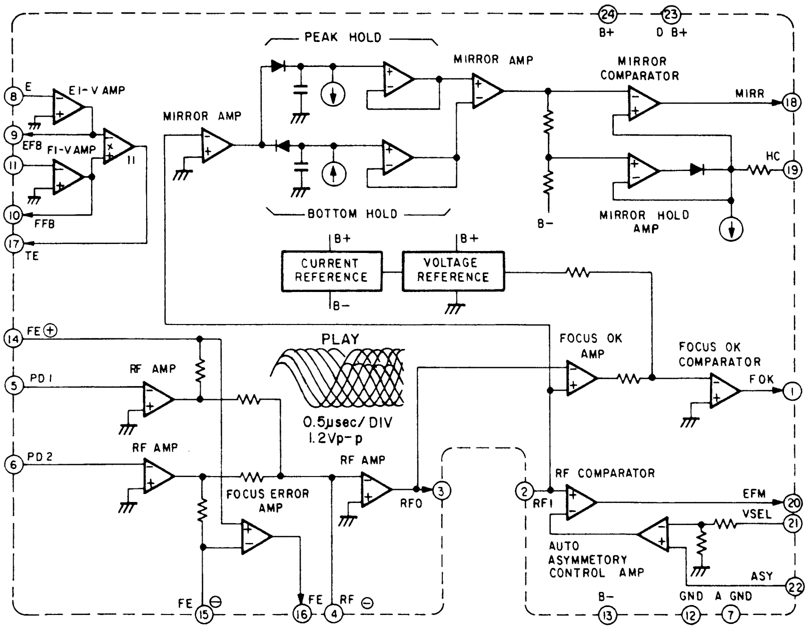




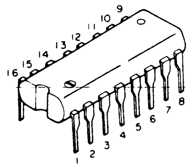
A-OUT
1
A-IN
2
A+IN
3
V-
4
8
V+
7
B-OUT
6
B-IN
5
B+IN
A
B

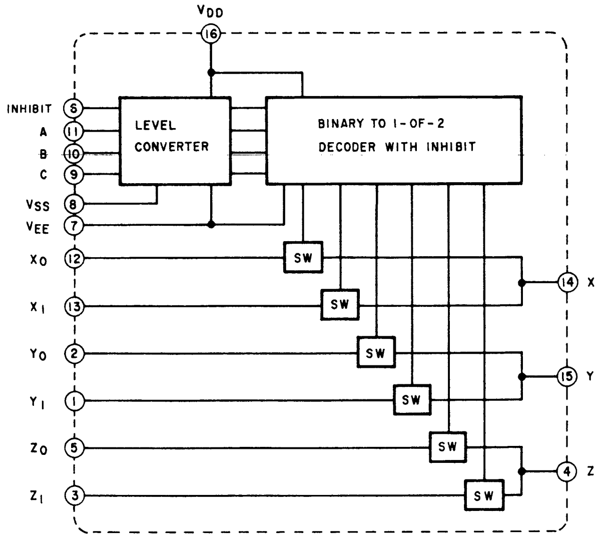
CX20109 : IC302


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

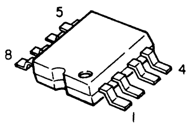

24
B+
23
D B+
PEAK HOLD
MIRROR AMP
MIRROR COMPARATOR
MIRR
18
8
E
EI-V AMP
9
EFB
FI-V AMP
11
10
FFB
17
TE
MIRROR AMP
HC
19
BOTTOM HOLD
B−
MIRROR HOLD AMP
B+
B+
CURRENT REFERENCE
VOLTAGE REFERENCE
B−
14
FE⊕
PLAY
FOCUS OK AMP
FOCUS OK COMPARATOR
5
PD I
RF AMP
FOK
1
0.5µsec/DIV
1.2Vp-p
6
PD 2
RF AMP
RF AMP
RF COMPARATOR
FOCUS ERROR AMP
RFO
3
2
RFI
EFM
20
VSEL
21
AUTO ASYMMETORY CONTROL AMP
ASY
22
FE
15
⊖
16
FE
4
RF ⊖
B−
13
GND
12
A GND
7

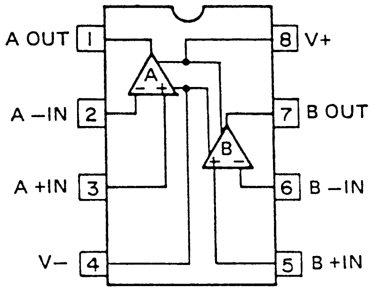
µ **PD4053BG** : IC401


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

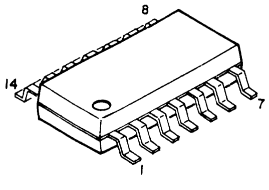

VDD
16
INHIBIT
6
A
11
B
10
C
9
VSS
8
VEE
7
LEVEL CONVERTER
BINARY TO 1-OF-2 DECODER WITH INHIBIT
X0
12
X1
13
Y0
2
Y1
1
Z0
5
Z1
3
SW
SW
SW
SW
SW
SW
14
X
15
Y
4
Z

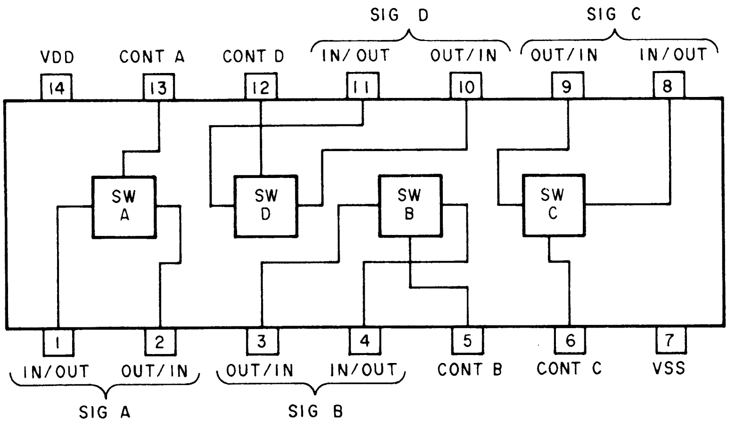
BA4560F : IC402, 406, 501
BA6993 : IC802



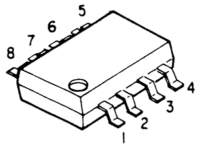

A OUT 1
A −IN 2
A +IN 3
V− 4
8 V+
7 B OUT
6 B −IN
5 B +IN
A
B

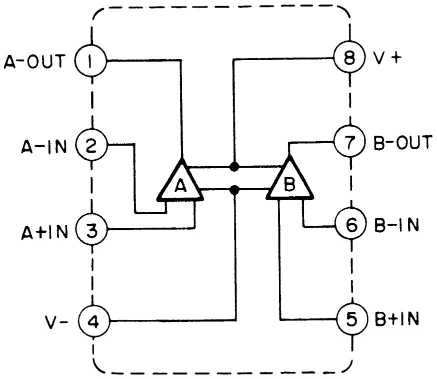
μ **PD4066BG** : IC404



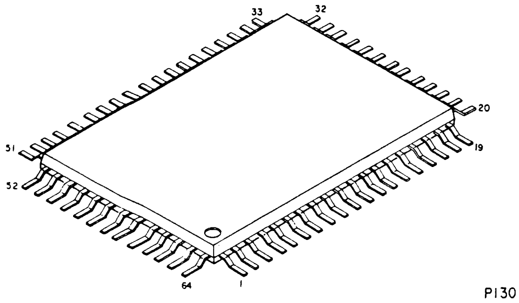

SIG D
SIG C
VDD
CONT A
CONT D
IN/OUT
OUT/IN
OUT/IN
IN/OUT
14
13
12
11
10
9
8
SW A
SW D
SW B
SW C
1
2
3
4
5
6
7
IN/OUT
OUT/IN
OUT/IN
IN/OUT
CONT B
CONT C
VSS
SIG A
SIG B

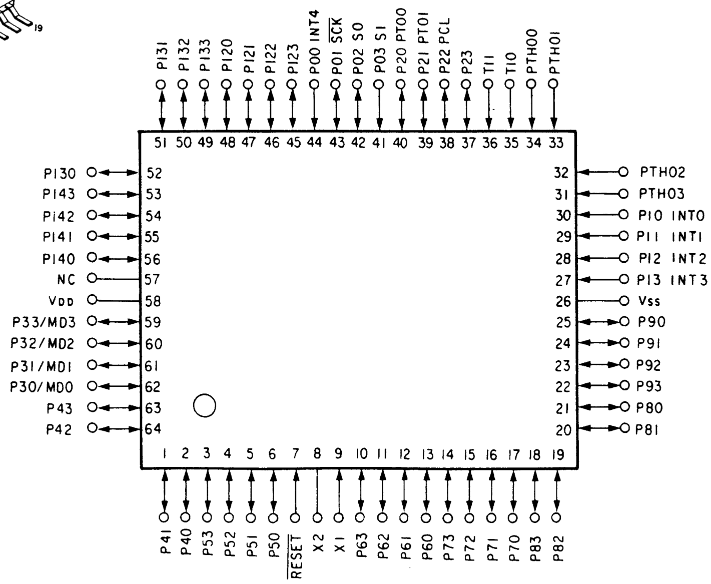
NJM5532M : IC408
NJM2903M : IC802



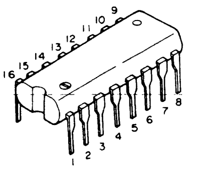

A-OUT 1
A-IN 2
A+IN 3
V- 4
8 V+
7 B-OUT
6 B-IN
5 B+IN
A
B

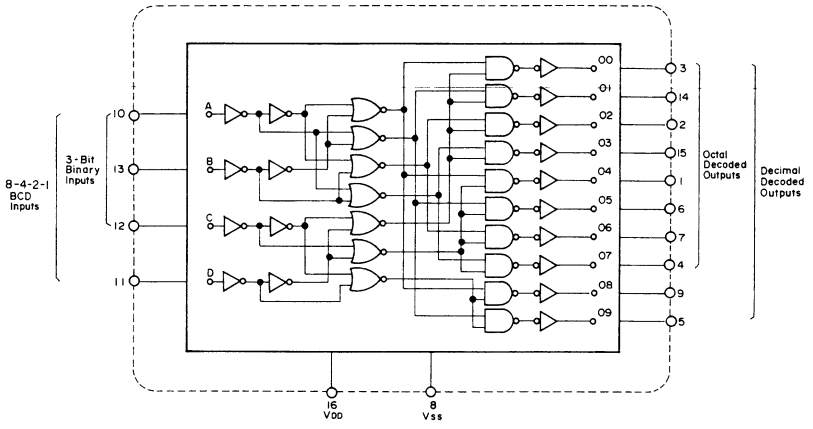
74184F04
82516F01 }: IC650


33
32
20
19
51
52
64
1

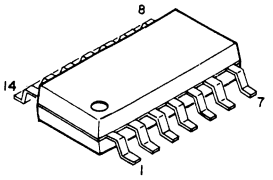

P131
P132
P133
P120
P121
P122
P123
P00 INT4
P01 $\overline{SCK}$
P02 SO
P03 SI
P20 PT00
P21 PT01
P22 PCL
P23
TI1
TI0
PTH00
PTH01
51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
P130 52
P143 53
P142 54
P141 55
P140 56
NC 57
VDD 58
P33/MD3 59
P32/MD2 60
P31/MD1 61
P30/MD0 62
P43 63
P42 64
32 PTH02
31 PTH03
30 P10 INT0
29 P11 INT1
28 P12 INT2
27 P13 INT3
26 Vss
25 P90
24 P91
23 P92
22 P93
21 P80
20 P81
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
P41
P40
P53
P52
P51
P50
$\overline{RESET}$
X2
X1
P63
P62
P61
P60
P73
P72
P71
P70
P83
P82

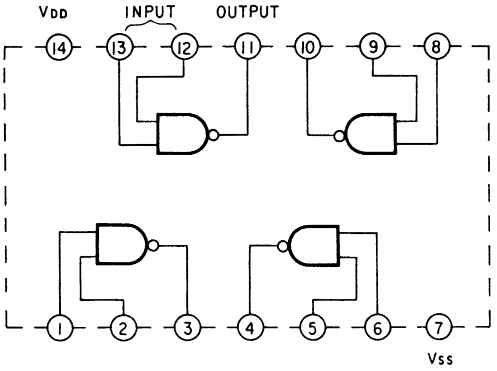
μ **PD4028BG** : IC651


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

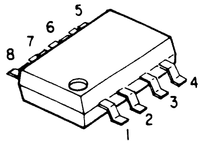

8-4-2-1 BCD Inputs
3-Bit Binary Inputs
10
13
12
11
A
B
C
D
00
01
02
03
04
05
06
07
08
09
3
14
2
15
1
6
7
4
9
5
Octal Decoded Outputs
Decimal Decoded Outputs
16 VDD
8 Vss

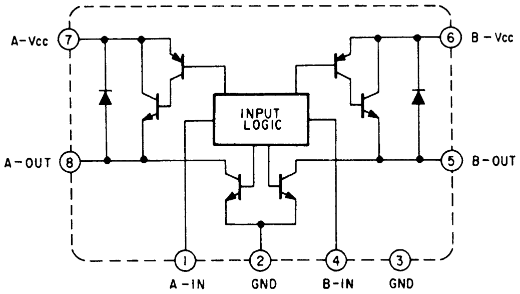
■ **BU4011BMF** : IC652



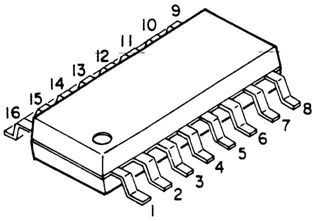

VDD
INPUT
OUTPUT
14
13
12
11
10
9
8
1
2
3
4
5
6
7
Vss

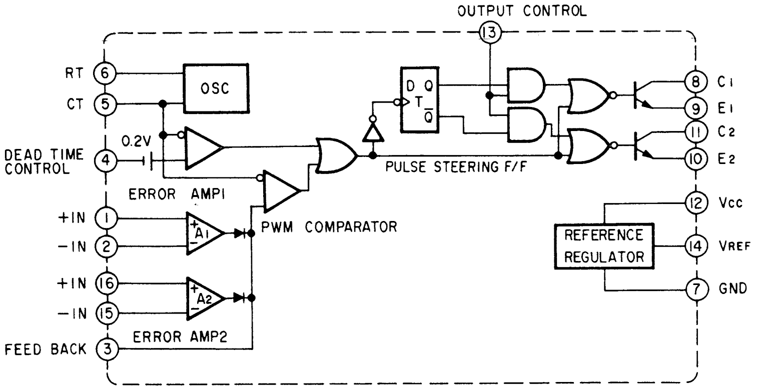
MB3763PF : IC653




A-Vcc
7
6
B-Vcc
INPUT LOGIC
A-OUT
8
5
B-OUT
1
2
4
3
A-IN
GND
B-IN
GND

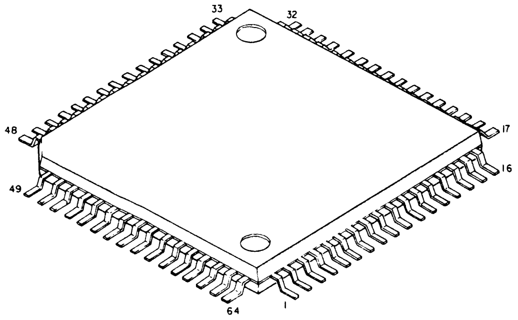
MB3759PF : IC801

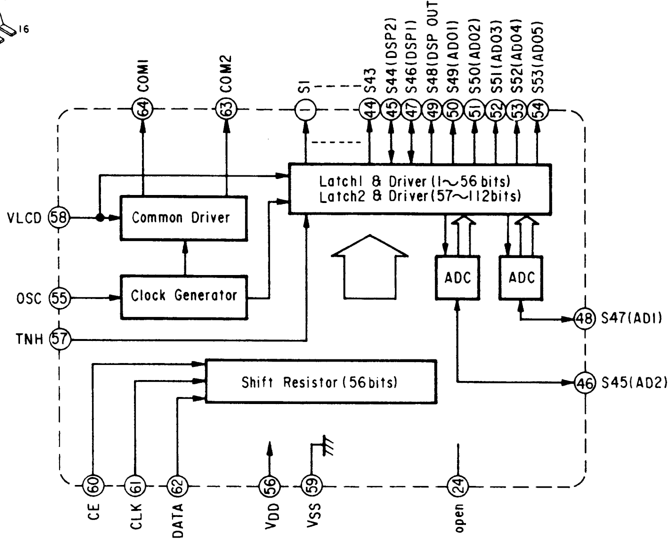

9
10
11
12
13
14
15
16
8
7
6
5
4
3
2
1


OUTPUT CONTROL
13
RT
6
CT
5
OSC
D Q
T
Q̄
8
C1
9
E1
11
C2
10
E2
0.2V
DEAD TIME CONTROL
4
PULSE STEERING F/F
ERROR AMP1
12
Vcc
+IN
1
−IN
2
A1
PWM COMPARATOR
REFERENCE REGULATOR
14
VREF
+IN
16
−IN
15
A2
7
GND
FEED BACK
3
ERROR AMP2

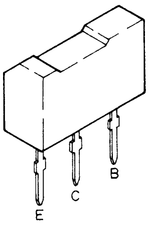
●: North American model only, ■: European model only,
Others : Common.

LC7580 : IC901

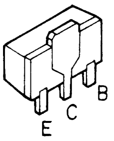

33
32
48
17
49
16
64
1


S1
S43
S44(DSP2)
S46(DSP1)
S48(DSP OUT)
S49(AD01)
S50(AD02)
S51(AD03)
S52(AD04)
S53(AD05)
64 COM1
63 COM2
1
44
45
47
49
50
51
52
53
54
Latch1 & Driver (1~56 bits)
Latch2 & Driver(57~112bits)
VLCD 58
Common Driver
OSC 55
Clock Generator
TNH 57
ADC
ADC
48 S47(AD1)
Shift Resistor (56bits)
46 S45(AD2)
60 CE
61 CLK
62 DATA
56 VDD
59 VSS
24 open

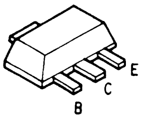
2SD1227M : Q201, 203, 205, 207, 681, 803, 805, 811,
2SB911M : Q202, 204, 206, 208, 301, 665, 670, 674
Q677 ■, 804, 806



2SD874A : Q650

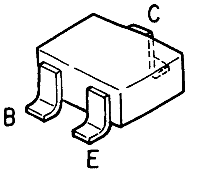


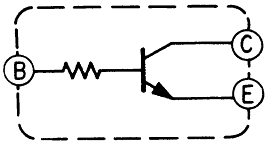
2SD1766 : Q209, 211, 213, 215, 217, 219
2SB1188 : Q210, 212, 214, 216, 218, 220



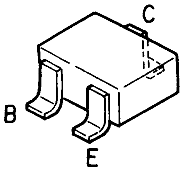
Notes : ● : North American model only, ■ : European model only, Others : Common.

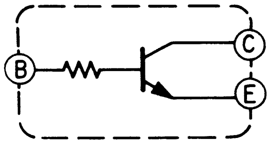
DTC114TK : Q221, 222, 224



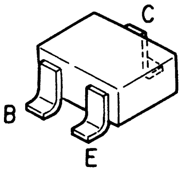


DTA114T : Q225

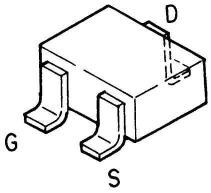




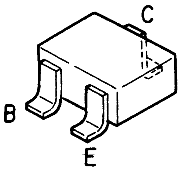
2SB709A : Q305, 663, 690, 813
2SD601A : Q306, 689
2SD1328 : Q403, 404, 405, 406, 501, 502, 503, 504
2SC2412K : Q691, 692
2SA1036K : Q693

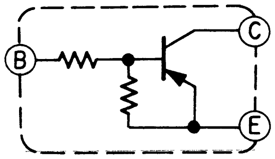


2SK621 : Q647

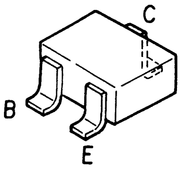


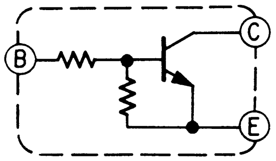
DTA124 : Q302, 401, 648, 679, 683, 685, 687, 695,
Q697, 810
UN2112 : Q654, 656, 658





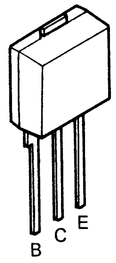
DTC124K : Q303, 649, 664, 671, 673, 678, 680,
Q686, 688, 694, 696, 807, 808, 809,
Q814, 815
■**DTC124K** : Q675, 676
UN2212 : Q659



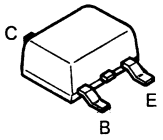


●: North American model only, ■: European model only,
Others : Common.

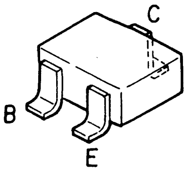
2SD1742 : Q657, 812

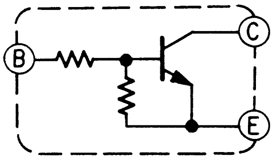


2SD1749 : Q660

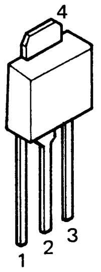


DTC144K : Q666, 669, 672, 684, 698, 699





2SA1385L : Q801, 802



1. Base
2. Collector
3. Emitter
4. Collector(Fin)